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STIC-Biotech/ChemLib

From: Sent:

To: Subject: Holleran, Anne Thursday, November 09, 2000 1:54 PM STIC-Biotech/ChemLib

sequence search for 09/266,543

Please search the following sequences for 09/266,543:

- 1. commercial and interference search of SEQ ID NO: 1 (aa)
- 2. commercial and interference search of SEQ ID NO: 2 (aa)
- 3. commercial and interference search of SEQ ID NO: 3 (aa)
- 4. commercial and interference search of SEQ ID NO: 4 (aa)
- 5. commercial and interference search of SEQ ID NO: 5 (aa)
- 6. commercial and interference search of SEQ ID NO: 6 (aa)
- 7. commercial and interference search of SEQ ID NO: 7 (aa)
- 8. commercial and interference search of SEQ ID NO: 8 (aa)
- 9. commercial and interference search of SEQ ID NO: 9 (aa)

Thanks

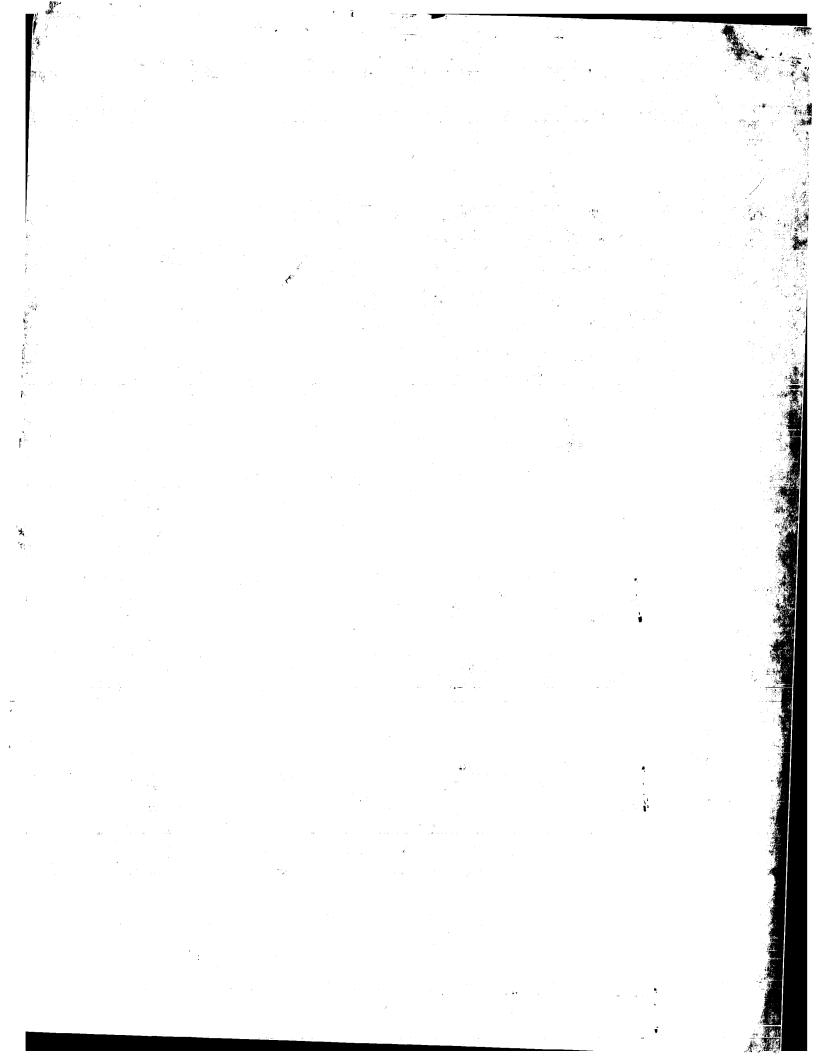
Anne Holleran AU:1642

Tel: 308-8897 Room: 8E03

Thanks

Anne Holleran AU:1642

Tel: 308-8892 Room: 8E03



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residues 36-39 of

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14-NOV-1988;
27-APR-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R43278
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                                                                                                                                                                         The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US5252718-A
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                                                                                                                                                                                                                                                                                                                       New fibroblast growth factor peptide(s) - used to inhibit cell growth in culture or retinopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-APR-1986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-OCT-1993
                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                            Example 1; Column 10; 12pp; English
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880S-0270225.
920S-0873773.
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Pred. No. 4.2e-26;
            Score 239; DB 14;
Pred. No. 4.2e-26;
; Mismatches 0;
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by 54% a
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                                                                                                                                                                                                                                                                                                                                                     are FGF antagonists in disease e.j
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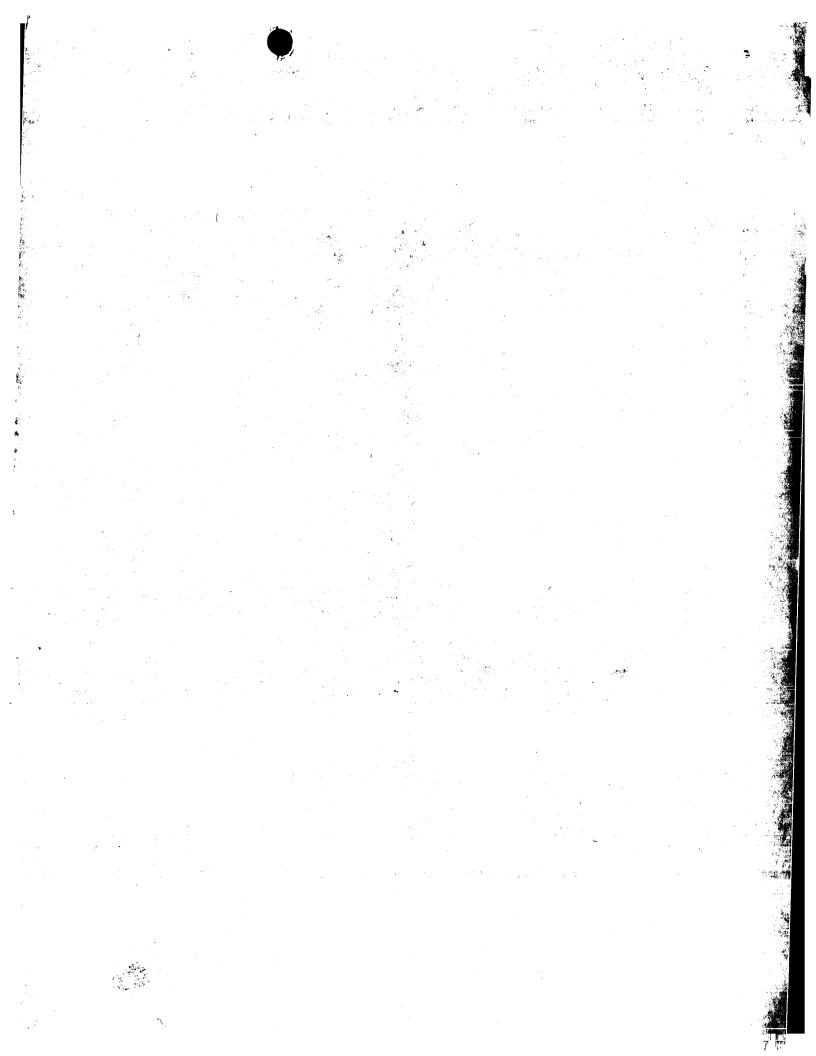
Score 239; DB 9; Pred. No. 9.1e-26; ; Mismatches 0;

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                                                 Using plasmid pTB796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB796 was obtained, which (IFO 14701, FERM BP-1 harbors the plasmid pTB796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. The mutein has high stability and is low in toxicity. Wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can all be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular briand of linkscape are advanced or called the stable and intermolecular briand of linkscape are advanced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-OCT-1990
                                                                                                                                                                                                                                                Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, activity of capillary endothelial cells and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP281822-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P81933 standard;
                                                                                                                                                                                                                       Disclosure; ; 1pp; English.
                                                                                                                                                                                                                                                                                                        N-PDSB; N81990
                                                                                                                                                                                                                                                                                                                                                  Senoo M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-SEP-1988.
                          and linkages are reduced or eliminated. See also N81971-97.
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                                                                                                                                                                                                                                                                                                                                                                                                                                  20-FEB-1988;
Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label=mutation_Lys_to_stopcodon
/note="creates AF1 II recognition
                                                                                                                                                                                                                                                                                                                                                  Igarashi K,
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                                                            intermolecular bridges
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Result
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2000 Comp
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P71557
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P71145
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R27717
R33278
R31941
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                                                                                                                                                                                                                                                                                                                                SUMMARIES
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               FGF antagonist bFG
Fibroblast Growth
FGF antagonist bFG
FGF antagonist bFG
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TCAL	843. 225. 773.	843.			amic	Qua	itis	120)	2		; 21			110 110 110 110 110 110 110 110 110 110
STUDIES.		•				ion/Qualifiers	s; retinopathy.	2.			l AA.		ALIGNMENTS	9700085 9700085 970029 981939 981939 990561 990562 990562 990563 981932 R65932 R65932 R717965 R81937 R81939
							, mrcogen,							Bovine basic fibro Sequence of bovine Recombinant bovine Partial fibroblast FGF residues 70-15 Human basic fibrob rhbFGF mutein C123 Human basic fibrob rhbFGF mutein C523 Human basic fibrob Fibroblast growth a bFGF mutein C37 rhbFGF mutein C137 Human basic fibrob Sequence of basic Human basic fibroblast g bFGF mutein BFM3. bFGF mutein BFM4. bFGF mutein BFM4. bFGF mutein BFM5. Human basic Fibrob Human basic Fibroblast growth Fibroblast growth Fibroblast growth Fibroblast growth Fibroblast growth

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                                                                                                                                                                                      The C-terminal group is -NH2 or -OH. The invention also covers fragments of this peptide which retain the ability to bind with heparin or with the FGF receptor. The sequence includes the basic FGF. They are also antagonistic constitutes residues 107-110 of modulate growth of epithelial (and related) cells and can be used diseases of eyes and kidneys, some types of tumours and adrenal recommendations.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vascularisation.
See also P71542, P71558-9, P71561.
                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                          New polypeptide antagonists of fibroblast growth factor -
effective against basic or acidic forms, useful eg for treating
proliferative diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baird AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SALK ) SALK INST FOR BIOL STUD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-APR-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-APR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-NOV-1987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP246753-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fibroblast growth factor; FGF; heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fibroblast Growth Factor antagonist #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P71557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P71557 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The peptide bFGF(100-120)-NHZ exhibits very good inhibition of bFGF-induced mitosis, strongly inhibits bFGF binding to BHK cells and it binds itself to heparin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 18B; Column 16; 12pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New fibroblast growth factor peptide(s) - are; used to inhibit cell growth in culture or in d. retinopathy, glomerulonephritis, melanoma etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Page 15; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N
                                                                                                                                       28 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity
21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ling NCK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86US-0854843.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87EP-0303489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; s
100.0%; F
itive 0;
           Score 115; DB 8;
Pred. No. 2.7e-10;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Score 115; DB 14; Pred. No. 2e-10; 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   are FGF antagonists
in disease e.g.
                                                    Length 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
         Indels
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       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
0
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RESULT
R43274
ID R4
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AC R4:
XX
DT 05.
XX
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                                                                                                                                                                          Query Match
Best Local s
Matches 21
FGF antagonist bFGF(93-135).
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R43293
               05-MAY-1994 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                               R43274 standard; peptide; 43
                                      R43274;
                                                                                                                                                                          The peptide bFGF(93-120)-NH2 is a specific example of a peptide of the invention; it has full antagonist activity to both basal and bFGF-stimulated endothelial cell growth, it binds to heparin and inhibits the binding of bFGF to BHK cells.
                                                                                                                                                                       Sequence
                                                                                                                                                                                                                        Example 16; Column 15; 12pp; English.
                                                                                                                                                                                                                                   New fibroblast growth factor peptide(s) - are FGF antagonists used to inhibit cell growth in culture or in disease e.g. retinopathy, glomerulonephritis, melanoma etc.
                                                                                                                                                                                                                                                                                                                                22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                              WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                                Baird JA,
                                                                                                 1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                           (SALK ) SALK INST BIOLOGICAL STUDIES
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                                                                                                                                                                                                                                                                                                                                                                  22-APR-1986;
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                                                                                                                                                                                                                                                                                                                                                                                  12-OCT-1993.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovine; basic fibroblast growth factor; an melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FGF antagonist bFGF(93-120)-NH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R43293;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R43293 standard; peptide;
                                                                                        snnyntyrsrkysswyvalkr 28
                                                                                                                             21;
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                                                                                                                                    Similarity
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                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                               Ling NC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
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88US-0270225.
92US-0873773.
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                                                                                                                                 100.0%;
                                                                                                                          0,
                                                A
                                                                                                                     Score 115; DB 14;
Pred. No. 2.7e-10;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                antagonist; mitogen;
                                                                                                                                    Length
                                                                                                                    Indels
                                                                                                                                    28;
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RESULT
R65933
ID R6
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AC R6
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XX
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XX
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Best Local
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14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                          Peptides having the sequence of amino acids 93-135 of bFGF (R43274) or C-terminally truncated fragments which contain the sequence YRSRYSSWY are claimed. The peptides are FGF antagonists and can be used to regulate cell growth and proliferative diseases.

N.B. the sequence given in Claim 1 and assigned GENESEQ Accession No. R43275 includes an additional Tyr residue between Tyr115 and Vall16; this residue does not, however, appear in any of the peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New fibroblast growth factor peptide(s) - are FGF antagonists used to inhibit cell growth in culture or in disease e.g. retinopathy, glomerulonephritis, melanoma etc.
                Rat fibroblast growth factor (FGF)
                                          10-JUL-1995 (first entry)
                                                                                                   R65933 standard; Protein; 134
                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1993-336156/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Baird JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SALK ) SALK INST BIOLOGICAL STUDIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-APR-1986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
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                                                                                                                                                                                                                                                                                                                              according
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                                                                                                                                                                                    SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                       snnyntyrsrkysswyvalkr
                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Column
                                                                                                                                                                                                                                                                                                     43 AA;
                                                                                                                                                                                                                                                                                                                              to Claim 1" (see Features Table in R43274).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ling
                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86US-0854843.
88US-0270225.
92US-0873773.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         22; 12pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
14..26
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14..28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
14..33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note=
                                                                                                                                                                                                                                             100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Claim 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Claim 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Claim 2 (C-terminally amidated)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "opt. amidated"
                                                                                                                                                                         28
                                                                                                                                                                                                                               0
                                                                                                                                                                                                                            Score 115; DB 14;
Pred. No. 4.2e-10;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (C-terminally amidated)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (opt. C-terminally amidated)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (C-terminally amidated)"
              partial sequence
                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                            43;
                                                                                                                                                                                                                               0
                                                                                                                                                                                                                              Gaps
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Query Match
Best Local Similarity
"hes 21; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Any naturally occuring fibroblast growth factor (FGF) containing one of the sequences described in R65930-R65935, into which at least one artificial glycosylation site has been induced, where the site/s are glycosylated with sugar chains selected from the following group N-acetyl glycosamine, N-acetyl galactosamine, mannose, galactose, fucose and cyalic acid, is claimed. These muteins have improved stability, intracellular productivity and cell growth promoting activity, they can also be produced in larger amounts than FGF isolated from natural sources. The muteins can be used in the treatment of traumas and burns, and in the production of a preventative therapeutic medicine for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fibroblast growth factor; FGF; glycosylation sites; traumas; burns; thrombosis; arteriosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Muteins of naturally occurring fibroblast growth factor - i which have been introduced at least one glycosylation site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1994-349502/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus rattus
                (TAKE ) TAKEDA
                                            31-MAY-1990;
                                                                                                                                                                                   bFGF; mutein; glycoslation site; glycoprotein.
                                                                                                                                                                                                                                             06-AUG-1993
                                                                                                                                                                                                                                                                         R34495;
                                                                                                                                                                                                                                                                                                    R34495 standard; protein; 145 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-APR-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-APR-1990;
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                                                                       30-MAY-1991;
                                                                                                 30-MAR-1993
                                                                                                                              JP05076356-A.
                                                                                                                                                                                                                 Rat basic Fibroblast Growth Factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  thrombosis and arteriosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Igarashi K,
                                                                                                                                                                                                                                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                                     1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                σ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Column 4; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; ilarity 100.0%; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sasada R,
                                                                                                                                                                                                                                          (first entry)
                CHEM IND LTD
                                          90JP-0143388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90JP-0108595
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                                                                       91JP-0127435
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Pred. No. 1.4e-09;
; Mismatches 0;
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Best Local s
Matches 21
                                                                            The purified bFGF may be easily produced from an expression system transformed by a vector carrying the sequence encoding the polypeptide. The bFGF peptides are mitogenic for a wide variety of cell lines, and in eliciting an angiogenic response and thus in
                                                                  Sequence
                                                                                                                                         Claim 1; Page 24; 29pp; English.
                                                                                                                                                       Pure basic fibroblast growth factor - produced by insersynthesised DNA chain into cloning vector and producing transformed cell lines.
                                                                                                                                                                                                                       Esch
                                                                                                                                                                                                                                (SALK ) SALK INST FOR BIOL STUD.
 1 SNNYNTYRSRKYSSWYVALKR
                               Local
                                                                                                                                                                                                                                                       20-JUN-1985;
                                                                                                                                                                                                                                                                       18-JUN-1986;
                                                                                                                                                                                                                                                                                          31-DEC-1986.
                                                                                                                                                                                                                                                                                                      W08.6077,595-A
                                                                                                                                                                                                                                                                                                                            Bos taurus
                                                                                                                                                                                                                                                                                                                                            Mitogenic;
                                                                                                                                                                                                                                                                                                                                                        Basic fibroblast growth factor.
                                                                                                                                                                                                                                                                                                                                                                               11-MAR-1991
                                                                                                                                                                                                                                                                                                                                                                                                   P71145;
                                                                                                                                                                                                                                                                                                                                                                                                             P71145 standard; protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention covers muteins of FGF (esp. least one glycosylation site. The muteins and thrombosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 3; 23pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FGF mutein prepn. useful for therapy of burn or thrombosis - transformation of lymphocyte-contained animal cell by vector conty. DNA encoding FGF mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                        99 snnyntyrsrkysswyvalkr 119
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                                                                                                                                                                                                1987-007193/01.
                                                                                                                                                                                                                      FS,
                    l Similarity
21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                      7
                                                                 146 AA;
                                                                                                                                                                                                                   Bohlen P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                  100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                          angiogenic; bFGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          145 AA;
                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                    85US-0747154.
                                                                                                                                                                                                                                                                   86WO-US01318.
                                                                                                                                                                                                                Baird A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
            Score 115; DB 8; I
Pred. No. 1.6e-09;
                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                        Gospodarowicz DJ, Ling NCK;
                                                                                                                                                                                                                                                                                                                                                                                                              Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 115; DB 14;
Pred. No. 1.5e-09;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bFGF) which contain at can be used to treat burns
                             Length 146;
            Indels
                                                                                                                                                                       inserting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 145;
           0,
        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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       0,
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RESULT
R27717
ID R2
XX
AC R2
XX
DT 16
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R25943
XX R2594
AC R25
XX R25
AC R25
XX R25
XX P1
XX P1
XX P2
XX P3
XX P4
XX P5
XX P5
XX P6
XX P7
XX 
                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                            δÃ
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Best Local S
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                                                                                               R27717
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                                                     R27717;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   The peptide is a bovine basic fibroblast growth factor. Truncated analogues of this peptide (esp. comprising residues 24-68) can be used as bogs antagonists, and can therefore interact or inhibit the peptide analogues can be used in human and other cell growth. The diagnosing and treating vasoproliferative diseases of the eye (e.g. chondrosarcoma), adrenal vascularisation and to inhibit neovascularisation of solid tumours. The peptide analogue should other cell growth that so be effective in combating the growth of human and coinhibit other melanocytes and the growth promotion of certain related oncogenes such as hst/K53. See also R25944-5.
                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New polypeptide(s) as fibroblast growth factor antagonists treatment of chondrosarcoma, diabetic retinopathy and glomerulonephritis and for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 1; 12pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1992-267992/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Baird AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SALK ) SALK INST BIOLOGICAL STUDIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US5132408-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fibroblast growth factor; fragment; analogue; antagonist; growth; vasoproliferation; diabetic retinopathy; glomerulonephritis; chondrosarcoma; adrenal vascularisation; neovascularisation; melanomas; hst/K53.
                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bovine basic FGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R25943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R25943 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100 snnyntyrsrlysswyvalkr 120
                                                                                    standard;
                                                                                                                                                                                                                                                                                                            l Similarity
21; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ling NC;
                                                                                  protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                              100.0%; Su
100.0%; Pr
                                                                                                                                                                                                                                                                                            Score 115; DB 13;
Pred. No. 1.6e-09;
); Mismatches 0;
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                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                      Length 146;
                                                                                                                                                                                                                                                                                      0,
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16-MAR-1993 (first entry)

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R33278
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Best Local
                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-MAR-1984;
09-NOV-1984;
20-JUN-1985;
10-DEC-1986;
31-DEC-1987;
                                                                                                                         R33278;
                                                                                                                                                                                                                                                                                                                                              FGF may be synthesised using recombinant DNA techniques (see also Q29741). This peptide is biologically active and exhibits either no or random disulphide bonding within the molecule. This protein, an analogue, a biologically active fragment, or a non-toxic salt of it may be used in a pharmaceutical composition for diagnostic or therapeutic uses. This may be used in in vitro cell proliferation procedures, eg. nerve regeneration and wound healing.
                                                                                                                                                                                                                                                                                                                                                                                                                                  This substantially pure protein was purified from partially purified basic fibroblast growth factor (FGF) by cation exchange HPLC and two reverse-phase HPLC steps. Having purified this protein to apparent homogeneity the amino acid sequence can be determined and pure basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Column
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Purified mammalian basic fibroblast recombinant method, is useful e.g. f
  JP05041988-A.
                                                 Rat; bFGF; vector;
                                                                                                                                                  R33278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1992-365559/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Basic fibroblast growth factor; FGF; cation exchange HPLC; reverse-phase HPLC; homogeneity; recombinant DNA; disulphide bond; non-toxic salt; pharmaceutical; diagnostic; therapeutic; in vitro cell proliferation; nerve regeneration; wound healing.
                         Rattus rattus
                                                                                                  16-JUL-1993
                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SALK ) SALK INST BIOLOGICAL STUDIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-JAN-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-MAR-1984;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalian basic
                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                            Match 100.0%;
Local Similarity 100.0%;
les 21; Conservative
                                                                                                                                                                                                                                      ب
                                                                                                                                                                                                           Bohlen
                                                                                                                                                                                                                                                                                                                          146 AA;
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84US-0670160.

85US-0747154.

86US-0940524.

87US-0139953.

90US-0462126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84US-0586518.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24; 24pp; English.
                                                                                                                                                  Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ָס
                                                 T7
                                                                                                entry)
                                                 promoter; active
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Esch
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                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                             Score 115; DB 13;
Pred. No. 1.6e-09;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gospodarowicz D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         growth factor - produced by for promoting wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ling
                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                      146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    basic
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POS X POT TO DESCRIPTION OF THE PROPERTY OF TH
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Best Local S
Matches 21
Claim 3; Page 53-59; 60pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The sequence given represents rat bFGF. The cDNA encoding this peptide was used in the construction of a vector also containing T7 promoter. The vector can be used to produce large amounts of
                                              fragment or mutein
                                                             Composition for inducing angiogenesis or treating coronary artery disease comprises fibroblast growth factor-2 or angiogenically active
                                                                                                                                         WPI; 2000-256860/22
N-PSDB; A07355.
                                                                                                                                                                                                                                                                                                       03-SEP-1998;
13-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                 27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200013701-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FGF-2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Recombinant bovine FGF-2 protein sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y81941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y81941 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       active form of rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 10; 12pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Prepn. of rat bFGF protein - by culture of transformants contg. vector contg. rat bFGF coding nucleotide sequence and T7 promoter and purificn. using chromatography
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1993-103610/13.
N-PSDB; Q38566.
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15-FEB-1991;
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                                                                                                                                                                                                              (CHIR ) CHIRON CORP
                                                                                                                                                                                                                                                                                      13-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                               16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TAKE ) TAKEDA CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cow;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 100 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ow; fibroblast growth factor artery disease; human; acute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                   98US-0145743.
98US-0104102.
98US-0104103.
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91JP-0022207.
91JP-0134768.
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                                                                                                                                                                                                                                                                                                                                                                                 99WO-US19770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in the construction vector can be used t bFGF.
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Сі
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 115; DB 14;
Pred. No. 1.6e-09;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acute

    angiogenesis; unstable angina
myocardial infarction; therapy.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 146;
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The published AA sequence of bovine basic FGF was used as a basis for the synthesis of mfd. bFGF gene for expression in E. coli. The nucleotide sequence of this mfd. gene includes codons most often used by E. coli and to both strands of the gene were synthesized in overlapping sections and assembled into 2 larger sections by hybridation and subsequent ligation. The 2 larger sections were then cloned into an approp. phage vector (M13mp18) for nucleotide sequence analysis. The sections were then
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 21
                                                                                                                                   DNA encoding human basic fibroblast growth factor used for expression in an E coli host with purification using non-heparin contg. chromatographic column
                                                                                                                    Example; Fig 2; 21pp; English.
                                                                                                                                                                                                                                  Banks
                                                                                                                                                                                                                                                                           03-NOV-1987;
                                                                                                                                                                                                                                                       (AMGE-) AMGEN INC
                                                                                                                                                                                                                                                                                                     14-JAN-1988;
                                                                                                                                                                                                                                                                                                                             20-JUL-1988
                                                                                                                                                                                                                                                                                                                                                   EP275204-A
                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine basic fibroblast growth factor (bFGF); wound healing; mitogen; phage vector M13mp18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence of manufactured (bFGF) for expression in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-SEP-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P80613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P80613 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents a recombinant bovine fibroblast growth factor-2 (FGF-2) sequence. The invention relates to a unit dose composition (I) for inducing angiogenesis in a human, comprising 0.008-7.2 mg of composition (I) and recombinant FGF-2 are useful for treating coronary FGF-2 may be used to treat unstable angina and acute myocardial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100 snnyntyrsrkysswyvalkr 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                        1988-199640-29
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                                                                                                                                                                                                                                  AR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 100.
21; Conservative
                                                                                                                                                                                                                                Fox GM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  146 AA;
                                                                                                                                                                                                                                                                       87US-0116430
                                                                                                                                                                                                                                                                                                 88EP-0300303
                                                                                                                                                                                                                                                                                                                                                               /note="changed to Ser"
                                                                                                                                                                                                                                                                                                                                                                                        'note="changed to Thr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein; 147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 115; DB 21; 100.0%; Pred. No. 1.6e-09; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bovine basic fibroblast growth_factor E. coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 146;
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RESULT P70671

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101

1 SNNYNTYRSRKYSSWYVALKR 21

21;

Similarity 100. 21; Conservative

100.0%; Score 115; DB 100.0%; Pred. No. 1.6e-

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Mismatches

Indels Length

Gaps

0;

147; 0

snnyntyrsrkysswyvalkr 121

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Query Match
Best Local S
Matches 21
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P90085
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
                                                     Bovine basic fibroblast growth factor (bFGF), which is converted by modified base features to analogues and to human bFGF by site-directed mutagenesis of the DNA encoding it (see N90034).
                                               Sequence
                                                                                                       Disclosure; fig 2; 67pp;
                                                                                                                                 Stable
- used
                                                                                                                                                              WPI; 1989-178359/24.
N-PSDB; N90034.
                                                                                                                                                                                             Arakawa
                                                                                                                                                                                                              (AMGE ) AMGEN INC.
                                                                                                                                                                                                                                    24-NOV-1987;
                                                                                                                                                                                                                                                       22-NOV-1988;
                                                                                                                                                                                                                                                                            01-JUN-1989.
                                                                                                                                                                                                                                                                                               WO8904832-A.
                                                                                                                                                                                                                                                                                                                   Bos taurus.
                                                                                                                                                                                                                                                                                                                                                              Bovine basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                            Bovine basic fibroblast
                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                              P90085;
                                                                                                                                                                                                                                                                                                                                                                                                                          P90085 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ligated into an expression vector and introduced into E. coli. Bovine and human basic FGF are known to differ by only two AAs. Site directed mutagenesis was used to convert the bovine gene into one coding for the human FGF (see FT). The FGF is a potent mitogen for a wide variety of eclls of mesodermal origin and may be chemotactic for endothelial cells and fibroblasts. The basic FGF induces neovascularisation and may be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
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                                                                                                                   basic fibroblast growth factor analogues to treat wounds and generate tissue and
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                                                                                                                                                                                                                                                                                                                                      tissue
                                                147
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                                                                                                       English
                                                                                                                                                                                                                                                                                                                                       growth factor; analogues;
                                                                                                                    generate tissue and organs.
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Pred. No. 1.6e-09;
Mismatches 0;
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Matches 21
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12-SEP-1985;
16-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The N-terminal AA sequence of both acidic and basic bovine FGF are used to construct long probes to screen human and bovine genomic libraries for FGF genes. Isolated sequences are used in vector construction etc. and used to transform CV-1 cells for FGF prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
Protein
Key
                                                                                                                                                                                                                                 W20029;
                                                                                                                                                                                                                                                                    W20029 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 11; Fig 3; 89pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New DNA sequences encoding mammalian fibroblast growth factors useful in prodn. of pure factors for use in wound healing and tissue repair and of probe for tumour testing
                                         Bos taurus
                                                                     FGF; fibroblast growth factor; basic; acidic; wound neurodegenerative disease; Parkinson's; Alzheimer's bone fracture; biologically active; embolism.
                                                                                                                                                  Recombinant bovine basic fibroblast growth factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1987-093786/13.
N-PSDB; N71024.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence of bovine basic fibroblast growth factor (FGF).
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85US-0775521.
85US-0809163.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tissue repair; tumour probe
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1..9
10..155
 Location/Qualifiers
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Pred. No. 1.7e-09;
Mismatches 0;
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disease;
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Search completed: November Job time: 102 sec
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30-MAR-1992;
01-APR-1994;
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12-SEP-1985;
16-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                                             W20029 is a recombinant bovine basic fibroblast growth factor (bFGF). Recombinant bFGF is used to promote healing of wounds, bone fractures, damaged myocardial tissue etc. and, since it increases neuronal survival and promotes neurite outgrowth, may also be used in treatment of neurological disorders such as Alzheimer's and Parkinson's diseases. bFGF may also be used for detection of specific inhibitors; for treatment of cell cultures in vitro before transplant and for inducing release of tissue plasminogen activator or collagenase, e.g. for treatment of a chronic tendency to form embolism. Recombinant bFGF can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New high purity, recombinant human basic fibroblast growth factor for promoting wound healing and treating neuro:degenerative diseases, suitable for production on large scale
                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 5; Fig 3; 34pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; T71236.
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                                                                                                              109 snnyntyrsrkysswyvalkr 129
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92US-0860688.
94US-0221462.
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85US-0775521.
85US-0809163.
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10..155
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Result
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Maximum DB
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19	19	19	19	18	17	17	16	11	21	20	20	20	20	18	18	18	14	12	20	17	17	21	21	21	20	19	17	16	21	21	20	19	
· ·	W57398	W62525	W69331	W38242	R94002	W00724	R91076	R08002	Y92005	Y08281	Y43484	Y07473	Y08280	W31094	W31089	W31085	R38921	R10917	Y43482	R94032	R94031	Y83033	Y69412	Y90402	Y33437	W62524	R94001	R91075	83	Y69413	Y08279	S)	
vascular	nt vas	Amino acid sequenc	G	æ		Vascular endotheli	vascular	vascular	Human vascular end	growt	Amino acid sequenc		Human growth facto	Vascular endotheli	Vascular endotheli	lar	VEGF-165.	Human vascular end	Amino acid sequenc	VEGF121 Cys+2. Ho	VEGF121 Cys+4. Ho	Human vascular end	Amino acid sequenc	VEGF encoded by cl	Parapox virus VEGF	acid sequ	VEGF121. Homo sap	Human vascular end		Amino acid sequenc	Human growth facto	Vascular endotheli	

ALIGNMENTS

W49805 standard; peptide; 36 AA

W49805;

24-SEP-1998

(first entry)

Amino acid sequence of ligand oligopeptides

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WPI;
Novel receptor-mediated gene transfer systems for targeting tumour gene therapy - by binding to growth factor receptor with their terminal exogenous DNA component, used to treat e.g. malignant tumour cells and tumour vascular endotheliocytes, and in gene
                                                                                                   ,Gu J,
                                                                                                                                                                                                                                                                                                   Ligand oligopeptide; 4-membered complex; gene transfer system; tumour gene therapy; polycationic polypeptide; cancer; endosome-release oligopeptide; malignant tumour cell; tumour vascular endotheliocytes.
                                                                                                                                                            31-OCT-1996;
                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                       27-OCT-1997;
                                                                                                                                                                                                                      07-MAY-1998.
                                                                                                                                                                                                                                                 WO9818951-A1
                                                                                                                               (SHAN-) SHANGHAI CANCER INST.
                                                                          1998-272239/24.
                                                                                                   Tian P;
                                                                                                                                                            96CN-0116557.
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YESSULT
YESSUL
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Best Local S
Matches 15
The present sequence represents native
                                                     Disclosure; Fig 12; 46pp; English.
                                                                            Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors such as vascular endothelial growth factor (VEGF)
                                                                                                                                                                                                                                                                                                                                                                                        09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                         WPI; 2000-256861/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiogenic factor; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular cosquiation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; autoimmune disease; organ transplant; focal glomerulosclerosis; amuloidosis.
                                                                                                                                                                                                                                                                               Schreiner GF,
                                                                                                                                                                                                                                                                                                                                     (SCIO-) SCIOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200013702-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amino acid sequence of vascular endothelial growth factor 110.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y69417 standard; Protein; 110 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This is the amino acid sequence of ligand oligopeptide used in the method of the invention to create a 4-membered complex gene transfer system for targeting tumour gene therapy is formed from a 3-membered compound carrier of a ligand oligopeptide/polycationic polypeptide/endosome-release oligopeptide complex, and an exogenous form of malignant tumour ceils and tumour vascular endotheliocytes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     y Match
Local Similarity 100.0%; Pred. No. 6.7e-08;
hes 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    σ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 32; 67pp; Japanese.
                                                                                                                                                                                                                                                                                                                                     INC.
                                                                                                                                                                                                                                                                                                                                                                             98US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36 AA;
                                                                                                                                                                                                                                                                            Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99WO-US20480.
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                                                                                                                                                                                                                                                                            ŖJ;
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human

vascular endothelial growth

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RESULT
Y83038
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC factor (YEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used CC for the prevention or repair of injury to blood vessels or associated CC nonvascular tissues (served by the blood vessels) and for the prevention CC and repair of vascular injury associated with microvascular angiopathy. CC with injury to, or atrophy of, the vasculature of the glomerulus and CC with injury to, or atrophy of, the vasculature of the glomerulus and CC syndrome, toxic/shock syndrome, venom exposure, chemical exposure, CC hypercoagulable states, platelet activation or aggregation, thrombosis, CC injury, pneumonia, infarction, ischemic bowel disease, transient ischemic CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung CC injury, pneumonia, pulmonary emboli, birth prematurity disorders, corgan allergic reactions, hypersensibitivity, autoimmune diseases, organ xxx xx transplants, focal glomerulosclerosis, and amyloidosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 15
Administering vascular endothelial growth factor (VGEF) can be used for treating hypertension (especially salt-dependent hypertension) Administration of VGEF promotes angiogenesis and/or vascular or
                                                                                                                                                                                                "(SCIO-) SCIOS
                                                                                                                                                                                                                          09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                       Disclosure;
                                                                               Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability .
                                                                                                                                                                       Schreiner GF,
                                                                                                                                                                                                                                                                                 09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                                                                                                                                                            16-MAR-2000.
                                                                                                                                                                                                                                                                                                                                      WO200013703-A2.
                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human vascular endothelial growth factor (hVEGF110).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y83038 standard; Protein; 110 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y83038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000-256862/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                    Figure
                                                                                                                                                                                               INC.
                                                                                                                                                                                                                       $8US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89.5%; Score 77; DB llarity 100.0%; Pred. No. 2., Conservative 0; Mismatches
                                                                                                                                                                      Johnson
                                                                                                                                                                                                                                                                             99WO-US20481
                                                                    11;
                                                                51pp;
                                                                                                                                                                    핂;
                                                              English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 21;
2.4e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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CC capillary permeability. The method is also useful in treating CC disorders related to abnormal transport of solutes across endothelial CC cells. Such disorders include the treatment or prevention of kidney CC disease associated with impaired filtration or excretion of solutes; CC the treatment or prevention of diseases of the central nervous system associated with alterations in cerebrospinal fluid, e.g. stroke, CC meningitis, tumour, infections, and bone growth disorders; treatment CC or prevention of hypoxia or hypercapnia or fibrosis arising from accumulation of fluid secrebrospinal fluid, e.g. stroke, CC mindistress syndrome, toxic alveolar injury, pneumonia, infections, CC surgical intervention, cystic fibrosis; treatment or prevention of CC gulmonary dysfunction arising from injury to the pulmonary for including disorders arising from premature birth, and CC endothelium, including disorders arising from premature birth, and CC pulmonary hypertension; treatment or prevention of disease arising CC from disordered transport of fluid and solutes across the intestinal CC epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or crevention of ascites accumulation in the peritoneum; enhancement of CC efficacy of solute flux; preservation or enhancement of function of corgan allografits; and treatment of cardiac valve disease. This cardiac valve disease. This cardiac transport is mediated by interaction CC with specific receptors on target tissues, most notably the vascular endothelium. VGEF exists as five different length monomer chains due to alternative splicing of the VGEF RNA transcript.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match

Best Local Similarity

Matches 15; Conserv
Disclosure; Fig 7(1-2); 94pp; English
                                     producing the fa-
in wound healing
                                                       DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                               N-PSDB; Q11099
                                                                                                                                 WPI; 1991-073534/10
                                                                                                                                                                         Tischer ER,
                                                                                                                                                                                                                                                 14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                          Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R11385 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                         27-JUL-1990;
                                                                                                                                                                                                                                                                                                                                               21-FEB-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human vascular endothelial cell growth factor 121
                                                                                                                                                                                                           (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                    WO9102058-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72 eesnitmqimrikph 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                       Abrhamam,
                                                                                                                                                                                                                                                 89US-0450883.
89US-0387545.
                                                                                                                                                                                                                                                                                                         90WO-US04227
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100.0%;
                                                                                                                                                                       Fiddes JC, Mitchell RL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 77; DB 21;
;; Pred. No. 2.4e-07;
0; Mismatches 0;
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RESULT
R42607
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                               27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is required
                                                                                                                                                                                                                                                                                                                                                                         /note- "inserted amino acid relative Misc-difference; 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R42607 standard; Protein; 121 AA
                                                                     WPI; 1993-205302/25.
N-PSDB; Q49601.
                                                                                                                                                                                                                                                                                                        US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human VEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                    Abraham JA, Fiddes JC,
                                                                                                                                                  (SCIO-) SCIOS
                                                                                                                                                                                                                                            27-JUL-1989;
                                                                                                                                                                                                                                                                          15-JUN-1993.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-OCT-1993 (first entry)
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15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                  NOVA INC
                                                                                                                                                                             39US-0387545.
39US-0450883.
30US-0559041.
                                                                                                                                                                                                                                        3905-0387545
                                                                                                                                                                                                                                                                                                                                 /note= "Lys 115 of hVEGF-121 is replaced by 44 amino acids encoded by an alternatively spliced exon in hVEGF-165 (see R38921)"
                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89.5%; Score 77;
100.0%; Pred. No.
                                                                                                                      Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 12; 1
. 2.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 121,
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                                                                                                                                                                                                                                                                                                                                                                                               bVEGF*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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RESULT
ID W09091
XX W09091
XX W09091
XX VE W1
X
Query Match
Best Local Similarity
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Best Local Similarity
Thes 15; Conserve
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                                                                                                                                                        A vaccine for treatment and prevention of diseases caused by vascularisation comprising a cell growth factor or its fragments which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumours, trachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration. A preferred protein for use in the vaccine is human VEGF/VPF121, i.e. the present sequence.
                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                     Example; Page 6-7; 7pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Vaccine for treatment of vascularisation diseases, comprises peptide derived from vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1996-450932/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-SEP-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JP08225462-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGF; VPF; vascular endothelial cell growth factor; vascular permeability factor; vaccine; vascularisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vascular permeability factor; vaccine; vascul glaucoma; eye tumour; trachoma; psoriasis; gr hypertrophic scar; post-crystalline fibrosis; senile disk muscular degeneration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human VEGF/VPF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W09091 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42507). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ) TOA GOSEI CHEM IND LTD
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                                                                                                            121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95JP-0312562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for treatment
          89.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of vascularisation diseases
77;
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  DB 17;
2.7e-07;
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2.7e-07;
thes 0;
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                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                   e.g. c
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                                                                                                                                                                                                                                                                                                                                                                                                                                 cancer
l growth
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TX SX FX BX
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     Human vascular
                          20-AUG-1996
                                             R96043;
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                                                               R96043 standard;
                                                                                                                                                                                                                       This is the amino acid sequence of the vascular permeability factor (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which w03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                   Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                         New peptide, useful as antigen if factor monoclonal antibody - is and as biochemical reagents
                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1996-358508/36.
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                                                                                                              72 eesnitmqimrikph
                                                                                                                                 2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                         18-OCT-1994;
10-JUN-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            monoclonal antibody; hybridoma; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular permeability factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W03677 standard; protein;
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                                                                                                                                                       l Similarity
15; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  permeability factor; growth factor; overlapping peptide;
                                                                                                                                                                                                     121 AA;
                                                                                                                                                     Conservative
                        (first
   permeability factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
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                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                        94JP-0278387
94JP-0152805
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                      entry)
                                                                                                                                                            89.5%;
                                                                                                               86
                                                              121
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                                                                                                                                                     0;
                                                                                                                                                            Score 77;
Pred. No.
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                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                              for preparing vascular permeability used in treatment agent for cancers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                          DB 17;
2.7e-07;
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                                                                                                                                                                  Length 121;
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Query Match
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Matches 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular therapy;
             Partial peptide(s) of VPF121 and monoclonal antibodies - useful anticancer agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Monoclonal antibody reacting with human vascular - useful for treatment and diagnosis of cancer an
                                                   WPI; 1996-074895/08
                                                                                                      07-JUN-1994;
                                                                                                                                07-JUN-1994;
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                                                                                                                                                                                   JP07330795-A
                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                     anticancer.
                                                                                                                                                                                                                                                   vascular
                                                                                                                                                                                                                                                                          Vascular permeability factor-121.
                                                                                                                                                                                                                                                                                                                                                        R93977 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 9; 10pp; Japanese.
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                                                                             (TOAG
                                                                                                                                                                                                                                                                                                    12-JUL-1996
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                                                                            ) TOA GOSEI CHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           permeability factor; VPF; human; monoclonal antibody; diagnosis; cancer; chimera; humanised antibody.
                                                                                                                                                                                                                                               permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 AA;
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                                                                                                      94JP-0125569
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                                                                                                                                                                                                                                                                                                                                                       protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89.5%;
                                                                                                                                                                                                                                                 factor; VPF121;
                                                                            IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 17;
5. 2.7e-07;
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                                                                                                                                                                                                                                                 monoclonal antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular permeability factor cancer and other diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 121;
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                                                                                                                                                                         The patent discloses a vascularisation-controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically used in immunotherapy to remedy disease caused by vascularisation, such as solid tunours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPSF) and vascular endothelial growth factor (VEGF). The present sequence is that of human VEGF/VPF121.
                                                                                                                                                                                                                                                                                                                                          Vascularisation controlling vaccine - contains endothelial growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JP09316000-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence represents VPF121. The patent relates to three new short peptides derived from this sequence (see R93978 - R93980) to monoclonal antibodies raised against them which are useful as
                                                                                                                                                                                                                                                                                                            Disclosure; Page 7; 9pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-082577/08.
                                                                                                                                                                                                                                                                                                                                                                                                                            (TOAG ) TOA GOSEI CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vascular endothelial growth factor; VEGF; permeability;
immunotherapy; yaccine; cancer; vascularisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGF/VPF121.
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72 eesnitmqimrikph
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                                                                Similar/ity
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                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9pp;
                                                                               89.5%;
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                                                                              DB 19; I
. 2.7e-07;
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2.7e-07;
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                                                                                             Length 121;
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RESULT
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                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                   Pharmaceutical pharma
                                                                                                                                                                                                                                                                                                                                       Growth
                                                                                                                                                                                                                                                                                                                                                                             Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Y08278 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                       14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y08278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121 present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New VEGF121-specific monoclonal antibody - levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-DEC-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor; VEGF; VEGF 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-SEP-1999
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                                                                                                                                                                                                                                                                                                                                                                               growth
                                                                                                                                                                                                                                                                                                                                     factor;
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15; Conserv
                                                       BIOTECHNOLOGISCHE FORSCHUNG MBH.
                      Kaerst U,
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                                                                                                                                                                                                                                                                                                                                                                        factor protein
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                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                     97DE-1048734.
                                                                                                                                             97DE-1048734.
                                                                                                                                                                                                                                                                                                                                human; dimer;
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                   Mueller
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                                                                                                                                                                                                                                                                                                                                                                      fragment VEGF-A121.
                                                                                                                                                                                                                                                                                                                   cysteine knot; cellular inclusion body;
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Pred. No.
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             Weich H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 121;
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Best Local Similarity
Matches 15; Conserv
This represents a vascular endothelial growth factor-145 (VEGF145) which can be used to stimulate vascular cell proliferation. Polynucleotides encoding VEGF145 are useful for treatment of cardiovascular or vascular disease in mammals, especially humans. They are also useful for enhancing
                                                                                                      Disclosure;
                                                                                                                               Vascular endothelial growth factor-145 splice variant - us anglogenic factor for treatment of cardiovascular disease
                                                                                                                                                                                                WPI; 1998-193621/17.
N-PSDB; V28396.
                                                                                                                                                                                                                                                                                       (COLL-)
                                                                                                                                                                                                                                                     Keshet⊶E,
                                                                                                                                                                                                                                                                                                                                              21-JAN-1997;
06-SEP-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial growth factor; VEGF145; angiogenic factor; cell proliferation; cardiovascular disease; drug permeation. tu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39,7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W56693 standard; Protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Preparing active growth factor dimers from inclusion bodies in high yield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-278785/24.
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                                                                                                                                                                                                                                                                                   COLLATERAL THERAPEUTICS. TECHNION RES & DEV CO LT
                                                                                                                                                                                                                                                 Neufeld G,
                                                                                              Fig 3; 73pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                        970S-0784551.
960S-0025537.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "encoded by ACG
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Pred. No.
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                                                                                                                                                                                                                                             Vlodavsky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (VEGF145).
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2.7e-07;
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drug permeation by tumours. VEGF145 can also be administered to stimulate vascular cell proliferation or to enhance endothelialization of diseased vessels (especially re-endothelialization after angioplasty) in mammals. VEGF145, which binds as weakly as VEGF165 to heparin, binds much better than VEGF165 to the extracellular matrix (ECM). However, unlike VEGF189, VEGF145 is secreted from producer cells and binds efficiently to ECM. This combination of properties render VEGF145 the only known VEGF variant that is secreted from producing cells retaining at the same time ECM binding properties. This makes VEGF145 likely to diffuse towards the target blood vessels, while some of the produced VEGF145 will be retained by ECM components along the path of diffusion. This ECM bound pool will clissociate slowly allowing a longer period of activity. Additionally, the bloogleal activity of VEGF145 is protected against oxidative damage unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
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Best Local S
Matches 15
                    This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2955). Y08278-Y08301 are human growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                     Erdmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Growth factor; human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y08279 standard;
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  protein
                                                                                                                                                                                                                         Claim 14; Page 7; 14pp; German.
                                                                                                                                                                                                                                                                                      yield
                                                                                                                                                                                                                                                                                                          Preparing active growth factor dimers from inclusion bodies in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-NOV-1997;
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fragments
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                                                                                                                                                                                                                                                                                                                                                                                                                     Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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  used
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  in the method of
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Pred. No.
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3.3e-07;
  the invention
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Query Match

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The present sequence represents native human vascular endothelial growth (factor (VEGF) 145. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated convascular tissues (served by the blood vessels) and for the prevention and repair of vascular injury associated with microvascular angiopathy, comparing the prevention and treatment of kidney diseases associated with injury to.or atrophy of, the vasculature of the glomerulus and conterstitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, thrombosis, preclampsia, thrombotic thrombocytopenia purpura, disseminated confiravascular coagulation, sehemic bowel disease, acute renal failure, compositation, ischemic bowel disease, transient ischemic compositation injury, acute respiratory distress syndrome, toxic alveolar condition, ischemic bowel distress syndrome, toxic alveolar condition, sepsia, pancreatis, acute renal failure, and tracks, stroke, hypoxia or hypercapnia or fibrosis arising from lung contents in the prevention of the proteins and tracks.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 100 Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig.5; 46pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors as vascular endothelial growth factor (VEGF) \, -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomeruloscierosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombotytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; vascular endothelial growth factor; VEGF 145; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombottic microangiopathy; kidney disease; haemolytic urenic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amino acid sequence of vascular endothelial growth factor 145.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schreiner GF,
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DB; Z99545.
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99US-0126615.
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	Sear Job	Qu Be Ma Qy Db	SX CCC
	Search completed: November Job time: 106 sec	Query Match Best Local Similarity 100 Matches 15; Conservative 2 EESNITMQIMRIKPH 16	wounds, allergic react transplants, focal gli Sequence 145 AA;
	9, 2000, 15:30:41	89.5%; Score 77; DB 21; Length 145; 100.0%; Pred. No. 3.3e-07; tive 0; Mismatches 0; Indels 16	wounds, allergic reactions, hypersensitivity, autoimmune transplants, focal glomerulosclerosis, and amyloidosis. Sequence 145 AA;
		145; ls 0;	ne disea
• •		Gaps	diseases, organ
		0;	an

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0 seq length: 2000000000
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-266-543-9
86
1 CEESNITMQIMRIK
       BLOSUM62
Gapop 10.0 , Gapext 0.5
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4.212 Million cell updates/sec
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Copyright (c) 1993 - 2000
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       BB
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5240848-7
PCT-US-96-09001-10
US-08-999-811-7
US-08-999-811-7
US-08-987-992B-4
US-09-042-105-7
US-08-469-427A-15
US-08-569-063C-20
5104596-9
5219739-9
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US-08-807-992B-2
US-08-691-794-2
5332671-4
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5219739-19
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5194596-19
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Sequence 3, Appli
Patent No. 5219739
Sequence 2, Appli
Sequence 3, Appli
Patent No. 5249848
Sequence 3, Appli
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 9, Appli
Sequence 9, Appli
Sequence 10, Appli
Sequence 17, Appli
Sequence 17, Appli
Sequence 27, Appli
Sequence 10, Appli
Sequenc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Wells, James A.
APPLICANT: L1, Bing
TITLE OF INVENTION: Variants of Vascu
TITLE OF INVENTION: Growth Factor, TI
TITLE OF INVENTION: Production
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flebr, Hobbach, Test, Al
GENERAL STATEMENT OF THE ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 1
US-08-691-794-3
                                                                                            NAME: Dreger Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEFX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: US 60/002,827
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT IMPORMATION:
NAME: Dreger Walter H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert STREET: Four Embarcadero Center, Suite 3400 CITY: San Francisco STATE: California COUNTRY: United States ZIP: 94111-4187 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 109 amino TYPE: amino acid STRANDEDNESS: unkr
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5. 6057428
                                                                       109 amino acids
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Growth Factor, Their Uses, and Processes
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US-08-807-92B-24
US-08-742-243-51
US-08-742-243-51
US-08-742-243-54
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-50
US-08-742-243-64
US-08-039-297B-8
US-08-742-243-49
US-08-897-340-35
US-08-897-340-36
US-09-100-391-10
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Sequence 52, Appl
Sequence 51, Appl
Sequence 51, Appl
Sequence 64, Appl
Sequence 64, Appl
Sequence 50, Appl
Sequence 50, Appl
Sequence 14, Appl
Sequence 21, Appl
Sequence 21, Appl
Sequence 49, Appl
Sequence 49, Appl
Sequence 35, Appl
Sequence 49, Appl
Sequence 49, Appl
Sequence 49, Appl
Sequence 40, Appl
Sequence 41, Appl
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for

their

Result No.

Score

Minimum DB Maximum DB

Title: Perfect score:

Scoring table: Sequence:

ÚS-08-691-794-3 Protein

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RESULT
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219739-20

PARTICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH C.; MITCHELL, TISCHER, EDMUND G.; ABRAHAM, JUDITH C.; MITCHELL, CELL GROWTH FACTORS ENCODING BYEGGEI20 AND MEDICAL CONTROLLAL CELL GROWTH FACTORS OF BOVING AND CURRENT APPLICATION DATA;

CURRENT APPLICATION DATA;

TOM NUMBER: 00, 00,077,559,041
                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local S
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Best Local Similarity 89.5%; Score 77; DB 5; Length 121;
Matches 15; Conservative 0; Mismatches 0; Indels
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Similarity 89.5%; Score 77; DB 5; Length 121
15; Conservative 0; Mismatches 0; Indels
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APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
GROWTH FACTOR INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 32
APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
TILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72 EESNITMQIMRIKPH 86
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LENGTH: 121
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Best Local Similarity 89.5%; Score 77; DB 3; Length 100.0%; Pred. No. 6.2e-08;
Conservative 0; Mismatches 0; Indels
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72 EESNITMQIMRIKPH 86
                                                                                                                                                                                                                                                          Length 121;
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SEQUENCE CHARACTERISTICS:
IYES:
A 145 emino acids
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STRANDEDNESS:
US-08-784-55IC-2
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Best Local S
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                                                                                                                                                                                                                             tent No.
                                                                                                  TILE CAMT: DVOIGET, DONALD R
TLE OF INVENTION: Immunolog
TLE OF INVENTION: Specific
                                                                                                                                                                                                                                                                                                72 EESNITMOIMEIRPH 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY AGENT INFORMATION:
RAME: FACTOR HELDER'S HELDER'
                                                                                                                                                                                                                                                                                                                       2 EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PILING DATE: January 21, 1
PRICASSFICATION: 514
APPLICATION DATA:
FTITNG NAME, NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: COMPATIBLE SOFTWARE: FRATSED FOR WINDOWS 2.0

APPLICATION NUMBER: US/08/784,551C
                                                                                                                                                                                              Application US/08807992B
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15; Initiarity 89.5%; Score 77; DB 3;
15; Conservative 0; Mismatches
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MEDIUM TYPE: 3 5 " DISKETTE, 1.44 Mb
David Prashker, Esq
O Box 5387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-784-551C-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Blank, Ro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:

ANGIOGENIC FACTOR AND USE THEREOF

ORDER OF SEQUENCES:

ORDER OF SEQUENCES:
Immunological Preparation for concurrent specific binding to Spatially exposed regions of vascular vascal ty factor bound in vivo to a tumor associated blo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEE: Blank, Rome, Comisky & McCauley LLP Respirator, D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2, Application US/08784551c
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Eli Keshet
Israel Vlodavsky
20ya Poltorak
ANGIOGEN
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8.8e-08;
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CURRENT APPLICATION DATA:

APPLICATION UMBER: US/07/45

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO.18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5194596-18
7 RESULT 7
5219739-10
5219739-10
; Patent No. 5219739
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND
; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121
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                                                                                                                                                                                                                                                                                                                                               5194596-18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patent NO. 5194596

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOI; C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 32
                                                                                                                                                                                    72 EESNITMQIMRIKPH 86
                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PS/1
OPERATING SYSTEM: 1
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                                                                                                                                                                                                                     2 EESNITMQIMRIKPH 16
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                                                                                                                                                                                                                                                          15;
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                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                           89.5%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/07/450,883
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                                                                                                                                                                                                                                                                           Score 77;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 77;
Pred. No.
                                                                                                                                                                                                                                                       ore 77; DB 5; Le red. No. 1e-07; Mismatches 0;
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3. 8.9e-08;
0;
                                                                                                                                                                                                                                                                                        Length 165;
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RESULT 8
US-08-567-200A-2
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SEQ ID NO:19:
                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION USTA:
APPLICATION USTA:
ETILING DATE: 05-DEC-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: DIeger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-62326-1/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/08567200A Patent No. 6020473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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Best Local :
                                                 Query Match
Best Local
                                                                                                                                                                                           TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 40 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                          MOLECULE TYPE: !protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                        LENGTH: 191 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: Four CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 450,883 FILING DATE: 14-DEC-1989 APPLICATION NUMBER: 387,545
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                                                                                                                                             TOPOLOGY:
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                                              Local
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2 EESNITMQIMRIKPH 16
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                                                 Similarity
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                                                                                                                                                           amino acid
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: United States
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nguyen, Francis H.
Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Keyt, Bruce A.
                                                                                                                                                                                                                                             398-3249
                                              89.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Variants of Vascular Endothelial Cell
Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08;
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                              Mismatches
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                                              DB 3;
1.2e-07
                                                           Length 191;
                              Indels
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                             Gaps
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RESULT 10
US-08-691-794-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/08691794 Patent No. 6057428
                                                                                        APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of V
TITLE OF INVENTION: Growth Factor
NUMBER OF SEQUENCES: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 89.5%;
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Senger, Donald R
APPLICANT: DVOTAK, Harold R
TITLE OF INVENTION: Immunolog.
TITLE OF INVENTION: permeabil.
TITLE OF INVENTION: vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No. 6022541
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -08-807-992в-2
                                                                                                                                                                                                                                                                                                                                               APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: David Prashker, Esq. REGISTRATION NUMBER: 29,693 REFERENCE/DOCKET NUMBER: BITTELECOMMUNICATION INFORMATION: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION WHERE: US/08/807,9921
FILING DATE: March 3, 1997
CLASSIFICATION: 424
THEORY OF THE PROPERTY OF THE PRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Deskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF INVENTION: vessel NUMBER OF SEQUENCES: 31 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2, Application US/08807992B
5. 6022541
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T: P.O. Box 5387
Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
                                                                                               Li, Bing
WENTION: Variants of Vascular Endothelial Cell
VENTION: Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                    Flehr, Hohbach, Test, Albritton & Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drskette, 3.50 inch, 1.40 Mb storage
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89.5%; Score 77;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MS DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunological preparation for concurrent specific binding to spatially exposed regions permeability factor bound in-vivo to a tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/08/807,992B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..2e-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 191;
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                                                                                                                                                             Best Local :
                                                                                                                                     Matches
      86
                                                                                                                                                                                                                                                                                                                          LENGTH: 191
                                                      2 EESNITMQIMRIKPH 16
EESNITMQIMRIKPH 112
                                                                                                                                                      Similarity
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RESULT 11
5332671-4
;Patent NO. 5332671
; PATENT NO. 5332671
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR AND DIAL ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
; CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity )
                                                                                                                            SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           // MOLECULE TYPE: protein
US-08-691-794-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acids
                                                                                                                                                   APPLICATION NUMBER: US/07/38
FILING DATE: (04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION UNMER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: -25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
NAME: Dreger, Walter H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acids
TOPOLOGY: 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEPAX: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-POS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                    98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 EESNITMQIMRIKPH 16
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CITY: San Francisco
STATE: California
       Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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                      89.5%;
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%; Pred. No. 1.2
0; Mismatches
                      Score 77;
Pred. No.
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       Mismatches
                   DB 5; 1
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                                 Length 191;
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US-08-807-992B-3
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5240848-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No. 5240848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 89.5%; Score 77; DB Best Local Similarity 100.0%; Pred. No. 1. Matches 15; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No. 602254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                 TELEPHONE: (978)
TELEPHONE: (978)
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                         CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION UNMER: 29,693
REFERENCE/DOCKET NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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FILING DATE: 10-JUL-1999
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                                                                                                                                                                                                                                               SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
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TOPOLOGY: 11r
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STATE: Massachusetts
                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: David Prashker, Esq. P.O. Box 5387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Senger, Donald R
Dvorak, Harold F
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linear
               single
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Query Match

89.5%;

Score 77;

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Length 215;

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RESULT 14
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;Patent No. 5240848
;Patent No. 5240848
; APPLICANT: KECK, PAMELA J.;CONNOLLY, DANIEL T.;FEDER,JOSEPH
; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
;PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application PC/TUS9609001
GENERAL INFORMATION:
APPLICANT: HU, ET AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
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               TELEFAX: 201-994-1744
INFORMATION FOR SEQ ID NO:
                                                                                                                     PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/465,

FILING DATE: 6 JUN 95

APPLICATION NUMBER: 08/207,

APPLICATION NUMBER: 08/207,

FILING DATE: 8 MAR 1994

ATTORNEY/AGENT INFORMATION:

NAME: FERRARO, GREGORY D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,06
                          REGISTRATION NUMBER: 36,134
REFERENCE/DOCKET NUMBER: 32
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-994-1700
TELEPAX: 201-994-1744
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 INCH DISKETTE
                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 0 L.
STREET: NOSELAND
CITY: ROSELAND
CTATE: NEW JERSEY
TSA:
                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                           COMPUTER: 18% FO, COMPUTER: 18% FO, SYSTEM: MS-DOS OPERATING SYSTEM: MS-DOS OPERATING SYSTEM: MS-DOS OPERATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98 EESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN, ADDRESSEE: CECCHI, STEWART & OLSTEIN STREET: 6 BECKER FARM ROAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 89.5%;
Local Similarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Vascular EndothelialGrowth Factor 2
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                                                                                        325800-288
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us-09-266-543-9.rai

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LENGTH: 231 AMINO ACIDS
TYPE: AMINO ACID
STRANDEDNESS:
TOPOLOGY: LINEAR
MOLECULE TYPE: PROTEIN
PCT-US96-09001-10
Search completed: November 9, 2000, 15:33:02 Job time: 243~\text{sec}
                                                                                                                                          Query Match 89.5%; Score 77; DB 4; Length 231; Best Local Similarity 100.0%; Pred. No. 1.5e-07; Matches 15; Conservative 0; Mismatches 0; Indels
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Minimum DB seq length: Maximum DB seq length:
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
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                                                                                                                                                                                                                                                                                                                    A_Geneseq_36:*
1: /SIDS1/gcgda:
2: /SIDS1/gcgda:
3: /SIDS1/gcgda:
4: /SIDS1/gcgda:
5: /SIDS1/gcgda:
6: /SIDS1/gcgda:
7: /SIDS1/gcgda:
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8: /SIDS1/gcgda:
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111:
12:
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Maximum Match 100%
Listing first 45 summaries
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71
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SIDS1/gcgdata/geneseq/geneseqp/AA198B.DAT:*

(SIDS1/gcgdata/geneseq/geneseqp/AA198D.DAT:*

(SIDS1/gcgdata/geneseq/geneseqp/AA198D.DAT:*

(SIDS1/gcgdata/geneseq/geneseqp/AA199D.DAT:*

(SIDS1/gcgdata/geneseq/geneseqp/AA199D.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268485 seqs, 34193795 residues
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/SIDSI/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDSI/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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Compugen Ltd
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Amino acid sequenc	Y23943	20	121	93.0	66	12
VEGF/VPF121. Homo	W40597	19	121	93.0	5	· F
vascular permeabil	XY3Y//	<u> </u>	121			· -
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Human vascular per	R96043	17	121	93.0	55	ص
Vascular permeabil	W03677	17	121	93.0	66	œ
Human VEGF/VPF121	W09091	17	121	93.0	66	7
Human VEGF-121. H	R42607	14	121	93.0	66	σ
Human vascular end	R11385	12	121	93.0	66	· UI
Human vascular end	Y83038	21	110	93.0	66	4
Amino acid sequenc	Y69417	21	110	93.0	66	ω
Encoded by human V	R42609	14	66	93.0	66	N
VEGF exon III. Ho	R94035	17	65	93.0	66	1
Description	ID	BB	Length DB	Query Match	Score	Result No.

vascula lar endo 65. Hom		16 17 17	191 191 191	ω ω ω ι	0 0 0 0 0 0 0 0	1 4 4 4 1 8 4 7
Human vascular end Parapox virus VEGF Human vascular end	Y92005 Y33440 R08002	21 20	189 190		50 50 50 50 50 50	410 421
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VEGF encoded by cl Amino acid sequenc Human vascular end VEGF121 Cys+4. Ho VEGF121 Cys+2. Ho	Y90402 Y69412 Y83033 Y83031 R94031	21 21 21 17	147 147 147 148 148		თ თ თ თ თ თ თ თ თ თ	23 24 25 27
Human vascular end Human vascular end VEGF121. Homo sap Amino acid sequenc Parapox virus VEGF Human VEGF protein		21 16 17 19 20	145 147 147 147 147 147	93.0 93.0 93.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	17 18 19 20 21 21
Human growth facto Vascular endotheli Human growth facto Amino acid sequenc		20 19 20 21	121 145 145 145		9 9 9 9 9 9 9 9	14 15 16

ALIGNMENTS

RESULT R94035 10-OCT-1996 R94035; R94035 standard; Protein; 65 AA. Homo sapiens. varicose veins; gene therapy. VEGF exon III. (first entry)

Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;

WO9606641-A1

07-MAR-1996.

29-AUG-1995; 95WO-US10973

16-MAY-1995; 29-AUG-1994; 95US-0441979, 94US-0297961.

(PRIZ-) PRIZM PHARM INC.

Fleurbaaij
Victor KD; GA, Freund E, Houston LL, Nova MP, Sosnowski BA;

WPI; 1996-160151/16. N-PSDB; T17743.

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XEFFXXXXOSSSSSSSSSSSSSSSSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CC growth factors (VEGF) exons. This sequence represent vascular endothelial conjugates, VEGF (or fragments of the invention. In the conjugates, VEGF (or fragments of it) are linked to a targeted agent VEGF receptor. Cys-modified forms of VEGF are particularly suitable for conjugation to linkers and targeted agents. The conjugates are can be used for treating a VEGF-mediated pathophysiological condition, solid tumours or an ophthalmic disorder of thyperproliferating blood vessels of the retina, iris, conjunctiva or cheumatoid arthritis, skin cancers and other tumours, or varicose veins.
           Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                   27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                       Abraham JA,
                                                                                                                             (SCIO-) SCIOS
                                                                                                                                                                                               27-JUL-1989;
                                                                                                                                                                                                                     15-JUN-1993.
                                                                                                                                                                                                                                           US5219739-A
                                                                                                                                                                                                                                                                                    Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121;
                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                  R42609 standard;
                                                                                                                                                                                                                                                                                                                                                        28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                R42609;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vascular endothelial cell growth factor (VEGF) conjugates - having VEGF linked to targeted agent, used for inhibiting proliferation of cells, e.g. for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CNDEGLESVPTEE 13
||||||| |||||
| 47 cndeglecvptee 59
                                                                    1993-205302/25.
DB; Q49605.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
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12; Conserv
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                                                                                                   Fiddes JC,
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                                                                                                                          NOVA INC.
                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                               89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                           89US-0387545.
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                                                                                                                                                                                                                                                                          splicing.
                                                                                                                                                                                                                                                                                                                            VEGF-165 exon III.
                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
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92.3%;
                                                                                                Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                  66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 66; DB 17; 1
Pred. No. 0.00012;
0; Mismatches 1;
                                                                                             Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 65;
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Best Local S
Matches 12
The present sequence represents native human vascular endothelial gractor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are for the prevention or repair of injury to blood vessels or associate nonvascular tissues (served by the blood vessels) and for the prevent and repair of vascular injury associated with microvascular angiopa
                                                                                             Disclosure; Fig 12; 46pp; English.
                                                                                                                 Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic facto as vascular endothelial growth factor (VEGF)
                                                                                                                                                                                                                                                                               09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; vascular endothelial growth factor; VEGF 110; anglogenic factor; blood vessel injury; vascular injury; microvascular anglogathy; thrombotic microanglopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                      (SCIO-) SCIOS
                                                                                                                                                                                                                                                                                                                                         09-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                    16-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y69417 standard; Protein; 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The sequences of the 8 possible exons encoding human vascular endothelial cell growth factor, together with contiguous splice junctions, were obtained from overlapping genomic inserts. A method for producing VBGF is claimed comprising culturing mammalian cells transformed with an expression vector containing exons I-V and VIII. See Q44261 for exon I and Q49604-Q49610 for exons II-VIII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48 cndeglecvptee 60
                                                                                                                                                                                       2000-256861/22.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8; Fig 8;
                                                                                                                                                                                                                         GF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence of vascular endothelial growth factor 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66 AA;
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                                                                                                                                                                                                                                                                            98US-0099694.
99US-0126406.
99US-0126615.
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                                                                                                                                                                                                                        Gohnson
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92.3%;
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Pred. No. 0.00012;
0; Mismatches 1;
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Best Local (
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and interstitium. Conditions which may be treated include haemolytic uremic syndrome, toxic shock syndrome, venom exposure, chemical exposure, preeclampsia, thrombotic thrombocytopenia purpura, disseminated intravascular coagulation, sepsis, pancreatis, acute renal failure, myocardial infarction, ischemic bowel disease, transient ischemic attacks, stroke, hypoxia or hypercapia or fibrosis arising from lung endothelium injury, acute respiratory distress syndrome, toxic alveolar injury, pneumonia, pulmonary emboli, birth prematurity disorders, wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ translants focal almorations, hypersensitivity, autoimmune diseases, organ translants focal almorations.
Administering vascular endothelial growth factor (VGEF) can be used for treating hypertension (especially salt-dependent hypertension) Administration of VGEF promotes angiogenesis and/or vascular or capillary permeability. The method is also useful in treating disorders related to abnormal transport of solutes across endothelial cells. Such disorders include the treatment or prevention of kidney disease associated with impaired filtration or excretion of solutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-JUL-2000
                                                                                                                                             Disclosure;
                                                                                                                                                                            Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability
                                                                                                                                                                                                                                   WPI; 2000-256862/22.
                                                                                                                                                                                                                                                                  Schreiner GF,
                                                                                                                                                                                                                                                                                                      (SCIO-) SCIOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human vascular endothelial growth factor (hVEGF110).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CNDEGLESVPTEE
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                                                                                                                                          Figure 11; 51pp; English.
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                                                                                                                                                                                                                                                                                                      INC.
                                                                                                                                                                                                                                                                                                                                     98US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                                                                                                  Johnson
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92.3%;
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Pred. No. 0.
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0.00021;
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RESULTARIANS
INDEX NO. 111385
INDEX NO. 
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Best Local S
Matches 12
                                                                                                                                                                                                           DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation in wound healing
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                                                                                                                                      Disclosure; Fig 7(1-2); 94pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tischer ER, Abrhamam,
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27-JUL-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  89US-0450883
89US-0387545
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92.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mitchell RL
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0.00021;
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The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In parhvEGF121 does not bind to heparin leaving more of the protein

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                       27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                       Claim 3; Fig 7; 40pp; English
                                                    Isolated DNA sequences, expression vectors and transformant cells, used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                            N-PSDB;
                                                                                                                                           Abraham JA,
                                                                                                                                                                 (SCIO-)
                                                                                                                                                                                                                                    27-JUL-1989;
                                                                                                                                                                                                                                                                                US5219739-A.
                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                           15-JUN-1993
                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                             Angiogenesis; wound healing; mitogen; vascular endothelial cells;
Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas habsgri65 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and e.g. preventing the growth of tumours.

VEGF analogues in which CYS residues are substd. are more stable.

See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-0CT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R42607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R42607 standard; Protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CNDEGLESVPTEE 13
                                                                                                                   1993-205302/25
                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEGF-121
                                                                                                          Q49601.
                                                                                                                                                                 SCIOS
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12; Conserv
                                                                                                                                         Fiddes JC,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                 NOVA INC.
                                                                                                                                                                                    89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                 89US-0387545.
                                                                                                                                                                                                                                                                                                                                      /note=
115
                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93.0%;
                                                                                                                                                                                                                                                                                            "Lys 115 of hVEGF-121 is replaced by 44 amino acids encoded by an alternatively spliced exon in hVEGF-165 (see R38921)"
                                                                                                                                                                                                                                                                                                                                               "inserted amino
                                                                                                                                        Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
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Pred. No. 0.00024;
0; Mismatches 1
                                                                                                                                      Tischer EG;
                                                                                                                                                                                                                                                                                                                                               acid
                                                                                                                                                                                                                                                                                                                                             relative to bVEGF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 121;
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The sequence of Q44260 contains

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frame corresponding

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CNDEGLESVPTEE

13

Matches

Conservative

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.00024;

Indels

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Gaps

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RESULT
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                 Query Match
Best Local s
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                   Sequence
                                                                                                A vaccine for treatment and prevention of diseases caused by vascularisation comprising a cell growth factor or its fragme which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumou trachoma, psoriasis, granuloma, hypertrophic scars, post-crystalline fibrosis and senile disk muscular degeneration and preferred protein for use in the vaccine is human VEGF/VPF.
                                                                                                                                                                                                                                        Vaccine for treatment of vascularisation diseases, e.g. ocumprises peptice derived from vascular endothelial cell
                                                                                                                                                                                                        Example; Page 6-7; 7pp;
                                                                                                                                                                                                                                                                                    WPI; 1996-450932/45
                                                                                                                                                                                                                                                                                                                                      01-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                              30-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                         03-SEP-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular permeability factor; vaccine; vascularisatio glaucoma; eye tumour; trachoma; psoriasis; granuloma; hypertrophic scar; post-crystalline fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                JP08225462-A.
                                                                                                                                                                                                                                                                                                           (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              senile disk muscular degeneration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGF; VPF; vascular endothelial cell growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W09091 standard; protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence glves a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle poly-A+ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09091;
                                                                                             .e. the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
     l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGF/VPF121
                                                                                         present sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                  121
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                                                                  AA;
                                                                                                                                                                                                                                                                                                                                   94JP-0298718
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for treatment of vascularisation diseases
                93.0%;
92.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.0%;
92.3%;
                                                                                                                                                                                                        Japanese.
Score 66; DB
Pred. No. 0.00
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vascularisation;
                           DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 14;
0.00024;
                        Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 121;
                                                                                                  degeneration.
n VEGF/VPF121,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                              fragments
                                                                                                                                      tumours,
                                                                                                                                                                                                                                                      cancer
                                                                                                                                                                                                                                        growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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61 cndeglecvptee

73

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Query Match
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 RESULT
R96043
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W03677
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                                                                                                                                                                                                                                                                                 (VPF), a member of the growth factor family. Several VPF types are known having 121, 165, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which were used to raise antibodies against the VPF peptide. The two peptides W03678-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                                                                                                                                                                                                                                                                                                                New peptide, useful as antigen factor monoclonal antibody - is and as biochemical reagents
                                                                                                        R96043 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vascular permeability factor; growth factor;
Homo sapiens
                   therapy;
                              Vascular
                                                  Human
                                                                    20-AUG-1996
                                                                                        R96043;
                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                          other diseases.
                                                                                                                                                                                                                                                                                                                                                         This is
                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-OCT-1994;
10-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W03677;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W03677 standard; protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                             61 cndeglecvptee 73
                                                                                                                                                                                 1 CNDEGLESVPTEE 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          œ
                                                vascular permeability factor
                                                                                                                                                                                                                                                                                                                                                        the amino acid sequence of the vascular permeability factor
                   permeability factor; VPF; human; monoclonal antibody; diagnosis; cancer; chimera; humanised antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antibody; hybridoma; cancer.
                                                                                                                                                                                                                                                       121 AA;
                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94JP-0278387
94JP-0152805
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                                                                                                                                                                                                              93.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          factor
                                                                                                            121 AA
                                                                                                                                                                                                     0
                                                                                                                                                                                                             Score 66; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                          for preparing vascular permeability sused in treatment agent for cancer:
                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                              DB 17; Length 121, 000024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     overlapping
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Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence represents the human vascular permeability factor (hVPF). The monoclonal antibody of the invention (WVI01) reacts with this hVPF sequence. WVI01 does not, however, react with a peptide composed of ten successive residues of this sequence starting from an odd number from the N-terminus of this sequence (e.g. residues 1-10, residues 5-14, residues 47-56 etc.). The antibody can be used for diagnosis and treatment of cancer and other diseases. When it is used as an anti-cancer agent, it is preferably in the form of a chimeric or humanised antibody.
The sequence represents VPF121. The patent relates to short peptides derived from this sequence (see R93978
                                                                              Partial peptide(s) of VPF121 and anticancer agents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Monoclonal antibody reacting with human vascular permeability factor useful for treatment and diagnosis of cancer and other diseases
                                                                                                                                                                                                                           07-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                        anticancer.
                                                                                                                                                                                                                                                                                                                                                                       vascular permeability factor; VPF121; monoclonal antibody;
                                                                                                                                                                                                                                                                                                                                                                                                     Vascular permeability factor-121
                                                                                                                                                                                                                                                                                                                                                                                                                                     12-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R93977 standard; protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Page 9; 10pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JP08053498-A.
                                              Disclosure;
                                                                                                                             WPI; 1996-074895/08
                                                                                                                                                                                            07-JUN-1994;
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                                                                                                                                                                                                                                                                                          JP07330795-A.
                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TOAG ) TOA GOSEI CHEM
                                                                                                                                                             (TOAG ) TOA GOSEI CHEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 AA;
                                              Page 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                         94JP-0125569.
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                                                                                                                                                                                         94JP-0125569
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73
                                              9pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
                                                                                                                                                             IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 66; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                monoclonal antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; DB 17;
. 0.00024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 121;
three new - R93980)
                                                                                                useful
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               Y23943;
                          Y23943 standard; peptide; 121 AA.
                                                                                                                                                The patent discloses a vascularisation-controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically used in immunotherapy to remedy diseases caused by vascularisation, such as solld tumours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPF) and vascular endothelial growth factor (VEGF). The present sequence is that of human VEGF/VPF121.
                                                                                                                                         Sequence
                                                                                                                                                                                                                 Disclosure; Page 7; 9pp; Japanese.
                                                                                                                                                                                                                               Vascularisation-controlling vaccine - contains endothelial cell growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                                                                            31-MAY-1996;
                                                                                                                                                                                                                                                                                                           31-MAY-1996;
                                                                                                                                                                                                                                                                         (TOAG ) TOA GOSEI CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                          09-DEC-1997
                                                                                                                                                                                                                                                                                                                                        JP09316000-A.
                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                  vascular endothelial growth factor; VEGF; permeability; immunotherapy; vaccine; cancer; vascularisation.
                                                                                                                                                                                                                                                                                                                                                                                                                              W40597;
                                                                                                                                                                                                                                                                                                                                                                                              VEGF/VPF121
                                                                                                                                                                                                                                                                                                                                                                                                              31-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                          W40597 standard; protein; 121 AA
                                                                  61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to monoclonal antibodies raised against them which are useful as anticancer agents.
                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CNDEGLESVPTEE 13
                                                                               CNDEGLESVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                       121 AA;
                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                          96JP-0138659.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
                                                                                                       93.0%;
92.3%;
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                                                                                               Score 66; DB
Pred. No. 0.00
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Pred. No. 0.00024;
0; Mismatches 1
                                                                                                      0.00024;
                                                                                                              DB 19;
                                                                                                            Length 121;
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                                                                                              Indels
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RESULT 13
Y08278
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Matches 12
                                         WPI; 1999-278785/24.
                                                                           Erdmann
                                                                                                                                           05-NOV-1997;
                                                                                                                                                                                                             06-MAY-1999.
                                                                                                           (GBFB )
                                                                                                                                                                           05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                           Human growth factor protein fragment VEGF-A121
                                                                                                                                                                                                                                               DE19748734-A1.
                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                pharmaceutical
                                                                                                                                                                                                                                                                                                                                  Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                    14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                      Y08278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y08278 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1999-437318/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (FJRE ) FUJIREBIO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JP11178593-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
hes 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 cndeglecvptee 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CNDEGLESVPTEE 13
                                                                           Η,
                                                                                                      GES BIOTECHNOLOGISCHE FORSCHUNG MBH
        active
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 AA;
                                                                         Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                               (first-entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                       human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                        97DE-1048734.
                                                                                                                                                                      97DE-1048734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97JP-0365972
       growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97JP-0365972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93.0%;
                                                                       Mueller C,
factor dimers from inclusion bodies in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 66; DB 20;
Pred. No. 0.00024;
); Mismatches 1
                                                                     Rinas U,
                                                                     Weich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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Best Local S
Matches 12
This represents a vascular endothelial growth factor-145 (VEGF145) which can be used to stimulate vascular cell proliferation. Polynucleotides encoding VEGF145 are useful for treatment of cardiovascular or vascular disease in mammals, especially humans. They are also useful for enhancing drug permeation by tumours. VEGF145 can also be administered to stimulate vascular cell proliferation or to enhance endothelialization of diseased vessels (especially re-endothelialization after angioplasty) in mammals. VEGF145, which binds as weakly as VEGF165 to heparin, binds much better
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor
                                                                                                                                                       Vascular endothelial growth factor-145 splice variant - useful as angiogenic factor for treatment of cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                 21-JAN-1997;
06-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 W56693;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W56693 standard; Protein; 145 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                yield
                                                                                                                              Disclosure; Fig 3; 73pp; English.
                                                                                                                                                                                                                                             Keshet E,
                                                                                                                                                                                                                                                                                                                                                           04-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                       12-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                  WO9810071-AJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14; Page 7; 14pp; German.
                                                                                                                                                                                                                                                                        TECHNION RES & DEV CO LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           endothelial growth factor; VEGF145; angiogenic factor;
liferation; cardiovascular disease; drug permeation. tumour
                                                                                                                                                                                                                                             Neufeld G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                 97US-0784551.
96US-0025537.
                                                                                                                                                                                                                                                                                                                                                          97WO-US15471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
92.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       growth
                                                                                                                                                                                                                                             Poltorak Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                            "encoded by ACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         factor-145 (VEGF145).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 66; DB 20; Pred. No. 0.00024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                             Vlodavsky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 121;
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1 CNDEGLESVPTEE

Query Match Best Local S Matches 12

l Similarity 12; Conserv

Conservative

0;

Mismatches

93.0%;

Score 66; D Pred. No. 0.

DB 20; 0.00029;

Length 145;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               than VEGF165 to the extracellular matrix (ECM). However, unlike VEGF189, VEGF145 is secreted from producer cells and binds efficiently to ECM. This combination of properties render VEGF145 the only known VEGF variant that is secreted from producing cells retaining at the same time ECM binding properties. This makes VEGF145 likely to diffuse towards the target blood vessels, while some of the produced VEGF145 will be retained by ECM components along the path of diffusion. ECM bound pool will dissociate slowly allowing a longer period of activity. Additionally, the biological activity of VEGF145 is protected against oxidative damage unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
                                    This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cyllular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 23 (1989) 2956). Y08278-Y08301 are human growth factor
Sequence
                                                                                                                                                                      Preparing active growth factor dimers
                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                             05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                            protein
                                                                                                                                          Claim 14; Page 7; 14pp; German
                                                                                                                                                                                                                                            Erdmann
                                                                                                                                                                                                                                                                                                  05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                          06-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                     DE19748734-A1
                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                             pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human growth factor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y08279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y08279 standard;
                                                                                                                                                                                                                                                                     (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 cndeglecvptee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15
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                                                                                                                                                                                                                1999-278785/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                          H, Kaerst U,
                          fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first
Š
                                                                                                                                                                                                                                                                                                  97DE-1048734
                                                                                                                                                                                                                                                                                                                                                                                                                                                          human;
                                                                                                                                                                                                                                                                                                                             97DE-1048734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                          Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 66; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     fragment VEGF-A145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                          Rinas U,
                                                                                                                                                                                     from inclusion bodies in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 19;
0.00029;
                                                                                                                                                                                                                                            Weich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 145;
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Search completed: November 9, 2000, 15:30:40 Job time: 105 sec

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein search, using sw model
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Match
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
             BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-266-543-8
71
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Copyright (c) 1993 - 2000 Comp
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                              5240848-11
US-08-807-992B-3
5219739-22
5240848-7
PCT US96-09001-10
US-08-999-811-7
US-08-824-996-9
US-08-042-105-4
US-09-042-105-7
US-08-042-105-9
51194596-9
5219739-18
5332671-3
5332671-3
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5219739-19
US-08-567-200A-2
US-08-807-992B-2
US-08-691-794-2
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US-08-784-551C-2
US-08-807-992B-1
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5194596-19
        US-08-469-427A-15
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3.422 Million cell updates/sec
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Sequence 2, Appli
Sequence 1, Appli
Patent No. 5219739
Patent No. 5219739
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Patent No. 5240848
Sequence 3, Appli
Patent No. 5240848
Sequence 10, Appli
Sequence 7, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 45, Appli
Sequence 47, Appli
Sequence 47, Appli
Sequence 48, Appli
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Sequence 49, Appli
Seque
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Patent No. 5194596
Patent No. 5219739
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-691-794-3
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ALIGNMENTS	US-08-742-243-44 US-08-742-243-44 US-08-742-243-44 US-08-469-427A-2 US-08-609-443B-2 US-08-609-443B-5 US-08-609-443B-1 US-08-609-443B-1 US-08-609-443B-7 US-08-609-443B-7	
	sequence 40, Appl Sequence 46, Appl Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 9, Appli Sequence 9, Appli Sequence 9, Appli Sequence 5, Appli Sequence 5, Appli Sequence 11, Appl Sequence 5, Appli Sequence 11, Appl Sequence 11, Appli Sequence 7, Appli Sequence 7, Appli	3

WOLECULE TYPE: protein US-08-691-794-3

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JOHN C.;MITCHELL, RICHARD L.

FITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HVEGF121 CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-UUL-1990

PRIOR APPLICATION NUMBER: 450,883

FILING DATE: 14-DEC-1999

APPLICATION NUMBER: 387,545

FILING DATE: 27-UUL-1989
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5219739-20
;Patent No. 5219739
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, FIDDES, EDMU
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                                                                                                                                                                                                                                                                                                             ; SEQ ID NO:20:
; LENGTH: 121
5219739-20
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Best Local S
Matches 12
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5194596-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5194596-19
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; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN ;C.;MITCHELL, RICHARD L.
;TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
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Best Local Similarity 92.7
Matches 12; Conservative
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local (
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61 CNDEGLECVPTEE 73
                                                                                                                                          Local Similarity 92.
                                                                      1 CNDEGLESVPTEE 13
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61 CNDEGLECVPTEE 73
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Local Similarity 92.3%;
hes 12; Conservative
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Pred. No. 0.000
0; Mismatches
                                                                                                                            Score 66; DB 5;
Pred. No. 0.00012;
0; Mismatches 1
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Pred. No. 0.00011;
0; Mismatches 1; Indels
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RESULT. __4

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RESULT 5
US-08-807-992B-1
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                                                                                                                                                                                            Sequence 1, Application US/08807992B Patent No. 6022541 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 93.0%;
Best Local Similarity 92.3%;
Matches 12; Conservative
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                                APPLICANT: Senger, Donald R
APPLICANT: Deporak, Harold F
TITLE OF INVENTION: Immunolog.
TITLE OF INVENTION: Specific invention: permeabil.
TITLE OF INVENTION: permeabil.
TITLE OF INVENTION: vessel
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX:
INFORMATION FOR SEQ ID NO:
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APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavs
APPLICANT: Zoya Poltorak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION UNMER: 25,109
REFERENCE/DOCKET NUMBER: 0274
TELEPHONE: (202) 463-7700
TELEPHAN: (202) 463-6915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: FASTSED for Windows 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: Storage
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/784,551C
FILING DATE: January 21, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE NUMBER OF SEQUENCES: 9
ADDRESSEE: D
STREET: P.O.
                                                                                                                                                                                                                                                                                                                                  61 CNDEGLECVPTEE 73
                                                                                                                                                                                                                                                                                                                                                         1 CNDEGLESVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Blank; Rome, Comisky & McCauley LLP STREET: 900 17th Street, N.W. STREET: 1000 CITY: Washington, D.C. STATE: N/A
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Eli Keshet
Israel Vlodavsky
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  David Prashker, Esq.
O. Box 5387
                                                                                  Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in vivo to a tumor associated by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
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Pred. No. 0.00015;
0; Mismatches 1
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RESULT 6
5194596-18
; PARTENT NO. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; APPLICAL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5194596-18
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Best Local Similarity
Matches 12; Conserv
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Best Local Similarity
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OPERATING SYSTEM: MS DOS
OPERATING SYSTEM: MS DOS
SOFTWARE: WORDERefect version 5.1
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION UNMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                   61 CNDEGLECVPTEE 73
                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
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                                                                                                                                                                                                                         Score 66; DB 5;
Pred. No. 0.00017
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Pred. No.
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                                                                                                         ; MOLECULE TYPE: 'protein US-08-567-200A-2
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                               Best Local Similarity Matches 12; Conserv
                                                       Query Match *
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/567
FILING DATE: 05-DEC-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION UNMBER: 24,190
REFERENCE/DOCKET NUMBER: A-62
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                   TELEFAX: (415) 398-32
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/
FILING DATE: 27-JUL-1990
                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: United ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CNDEGLECVPTEE 73
                                                                                                                                                                                                                                                 TELEPHONE:
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1 CNDEGLESVPTEE 13
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602
                                                                                                                                                       amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Flehr, Hohbach, Test, Albritton & Herbert Four Embarcadero Center, Suite 3400
                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Keyt, Bruce A.
Nguyen, Francis H.
Ferrara, Napoleone
                                                                                                                                                                                                                                   (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 United States
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                                                                                                                                           linear
                                                                                                                                                                                                                                                   (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Variants of Vascular Endothelial Cell Growth Factor, Their Uses, and Processes
                                                 93.0%;
92.3%;
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                                                 Score 66; I
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Pred. No. 0
                                   Mismatches
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                                                              DB 3;
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0.00017;
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                                                              Length 191;
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US-08-807-992B-2
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                                                                                                                                                                                                                  Sequence 2, Application US/08691794 Patent No. 6057428
                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Keyt,
APPLICANT: Nguyen
                                                       APPLICANT: L1, Bing
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                         APPLICANT:
                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: David Frashker, Esq.
REGISTION NUMBER: 29,693
REFERENCE,DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: David Prashker. Fe-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                87 CNDEGLECVPTEE 99
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FILING DATE: March 3, 1997
CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
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SOFTWARE: WordPer
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5. 6022541
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                                          Li, Bing Variants of Vascular Endothelial Cell/ENTION: Growth Factor, Their Uses, and Processes FENTION: Production
                                                                                                                                 Ferrara, Napoleone
Cunningham, Brian C.
                                                                                                                                                                   Nguyen, Francis H.
                                                                                                                     Wells,
                                                                                                                                                                                   Keyt, Bruce A.
                                                                                                                                                                                                                                                                                                                                                                              Conservative
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 Flehr, Hohbach, Test, Albritton & Herbert
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92.3%;
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Harold F
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5332671-4
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APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                   RESULT 11
5332671-4
;Patent No. 5332671
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
""+"hes 12; Conserv
        Matches
                                                                                                                                                                                                                                                         APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amifo
                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
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TOPOLOGY: 1100-101ECTT-
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APPLICATION NUMBER: US 60/002,827
FILING DATE: .25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: .05-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: A-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                     Local Similarity
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                                                                                                   LENGTH: 191
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FILING DATE: 04-AUG-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Dreger, Walter H. REGISTRATION NUMBER: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 02-AUG
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        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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   Score 66; DB Pred. No. 0.00 0; Mismatches
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Pred. No.
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                DB 5; Length 191;
0.0002;
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Gaps
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87

CNDEGLECVPTEE 99

1 CNDEGLESVPTEE 13

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RESULT 12
5240848-11
; Patent No. 5240848
; APPLICANT: KECK, PANELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEF
; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
; NUMBER OF SEQUENCES: 11
; NUMBER OF SEQUENCES: 11
; CURRENT APPLICATION DATA:
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US-08-807-992B-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 93.0%;
Best Local Similarity 92.3%;
Matches 12; Conservative
                                                                                               TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: DAVID PRESINER; ESG.
REGISTRATION UNMER: 29,693
REFERENCE/DOCKET NUMBER: BIT
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                   COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WORDPERFECT VERSION 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MATCh 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/07/337,037
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 215 amino acids
                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 3
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              TYPE: amino acid
STRANDEDNESS: sin
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T: P.O. Box 5387
Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Massachusetts
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                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
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Dvorak, Harold F
linear
                  single
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Pred. No. 0.00023;
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Query Match

93.0%;

Score 66;

DB 3;

Length 215;

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RESULT 14
5219739-22
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PATENT NO. 5219739

PATENT NO. 5219739

PATENT NO. 5219739

JOHN C.; MITCHELL, RICHARD L.

JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HUMAN HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN YAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
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Search completed: November Job time: 243 sec
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5240848-7
;Patent No. 5240848
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                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH TITLE OF INVERTION: DNA SEQUENCES ENCODING HUMAN VASCULAR; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5219739-22
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LENGTH: 215
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                                                                                                                                               Matches , 12;
                                                                                                                                                                    Query Match
Best Local Similarity
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Best Local :
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                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/07/
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
FILING DATE: 21-NOV-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87 CNDEGLECVPTEE 99
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FILING DATE: 27-JUL-1990
                                                                                  87 CNDEGLECVPIEE 99
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                                                                                                        1 CNDEGLESVPIEE 13
                                                                                                                                                                                                                                                       LENGTH: 215
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92.3%;
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                                                                                                                                                    Score 66; DB
Pred. No. 0.00
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 66; DB 5;
Pred. No. 0.00023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 0.00023;
D; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 215;
                                                                                                                                                                                     Length 215;
                                                                                                                                                      Indels
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                                                                                                                                                    Gaps
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Run
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Perfect score:
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                          A_Geneseq_36:*
1: /SIDS1/gcgda
2: /SIDS1/gcgda
           Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 268485 segs, 34193795 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-266-543-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   November
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
/SIDS1/gcgdata/geneseq/geneseqp/AA1988.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : Search time 94.87 Seconds (without alignments) 9.371 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          268485
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. 1 2 3 4 4 6 6	Score 133 133 133 133 133 133 133	Ouery Match 966.4	Length 110 110 121 121 121 121 121 121	21 21 21 12 14 17	TD Y69417 Y83038 R11385 R42607 R42607 R93977 R96043	
7	133	96.4	121	17	R96043	Human vascular per
· &	133	96.4	121	17	R93977	Vascular permeabil
9	133	96.4	121	19	W40597	VEGF/VPF121. Homo
10	133	96.4	121	20	Y23943	
11	133	.96.4	121	20	Y08278	Human growth facto
12	133	96.4	145	19	W56693	Vascular endotheli

ALIGNMENTS

Y69417 standard; Protein; 110 8

Y69417;

03-JUL-2000 (first entry)

Amino acid sequence of vascular endothelial growth factor 110.

Human; vascular endothelial growth factor; VEGF 110; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular cragulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; anches acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; anches; acute renal failure. amyloidosis. autoimmune disease; acute respiratory distress syndrome; birth prematurity disorder; wound; al wound; allergy; hypersensitivity;
ransplant; focal glomerulosclerosis; pneumonia; pulmonary emboli;

Homo sapiens.

WO200013702-A2

16-MAR-2000.

09-SEP-1999;

39WO-US20480

09-SEP-1998; 26-MAR-1999; 27-MAR-1999; 98US-0099694. 99US-0126406. 99US-0126615.

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r<sup>*</sup> Prace x social services and services are services and services are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Control the prevention or repair of injury to blood vessels or associated connivascular tissues (served by the blood vessels) and for the prevention of and repair of vascular injury associated with microvascular angiopathy. Control thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated contenstitium. Conditions which may be treated include haemolytic uremic conformation with may be treated include haemolytic uremic conformations. The vasculature of the glomerulus and conformation which may be treated include haemolytic uremic conformation of spragation, thrombosis, intravascular coagulation, venom exposure, chemical exposure, conformation of the prevention of the glomerulus and conformation of the glomerulus and conformation of the glomerulus and conformation of the glomerulus and conformation, thrombosis, conformation, thrombosis, pancreatis, acute renal failure, conformation, ischemic bowel disease, transient ischemic conformation, promotion of the glomerulus arising from lung condothelium injury, acute respiratory distress syndrome, toxic alveolar conformation, promotion, but the prematurity disorders, conformation, hypersensitivity, autoimmune diseases, organ and anyloidosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 25
         (SCIO-) SCIOS INC.
                                                                        09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    diarrhoea; allografts;
                                                                                                                                                                                                      09-SEP-1999;
                                                                                                                                                                                                                                                                 16-MAR-2000
                                                                                                                                                                                                                                                                                                                             WO200013703-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor; human; angiogenesis; capillary formation; hypertension; treatment; kidney; CNS
                                                                                                                                                                                                                                                                                                                                                                                                                                          capillary iormation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human vascular endothelial growth factor (hVEGF110).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y83038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y83038 standard; Protein; 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents native human vascular endothelial factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors as vascular endothelial growth factor (VEGF) \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Schreiner GF, Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SCIO-) SCIOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fig 12; 46pp; English
                                                                     98US-0099694.
99US-0126406.
99US-0126615.
                                                                                                                                                                                            99WO-US20481.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96.4%;
96.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 133; DB Pred. No. 7.2e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 21;
.2e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VGEF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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e used
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CC for treating hypertension (especially salt-dependent hypertension)
CC Administration of VGEF promotes angiogenesis and/or vascular or
CC capillary permeability. The method is also useful in treating
CC disorders related to abnormal transport of solutes across endothelial
CC disease associated with impaired filtration or prevention of kidney
CC disease associated with impaired filtration or prevention of solutes;
CC meningitis, tumour, infections in cerebrospinal fluid, e.g. stroke,
CC or prevention of fluid secretions in the lungs, e.g. acute respiratory
CC distress syndrome, toxic alveolar injury, pneumonia, infections,
CC gulmonary dysfunction arising from injury prevention of
CC pulmonary dysfunction arising from injury to the pulmonary
CC endothelium, including disorders arising from prevention of
CC pulmonary hypertension; treatment or prevention of
CC pulmonary hypertension; treatment or prevention of disease arising
CC epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or
CC efficacy of solute flux; preservation or enhancement of function of
CC corgan allografts; and treatment of cardiac valve disease. This
CC sequence is the native human vascular emothelial growth
CC endothelium. VGEF exists as five different length monomer chains due

CC endothelium. VGEF exists as five different length monomer chains due

CC contendative splicing of the VGEF RNA transcript.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Figure 11; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel methods for treating hypertension by administering increases angiogenesis and/or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Administering vascular endothelial growth factor (VGEF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schreiner GF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RJ;
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RESULT
R11385
                                                                                                                                                                                                                                                                                                                                                       Matches
 14-DEC-1989;
27-JUL-1989;
                                 27-JUL-1990;
                                                           21-FEB-1991
                                                                                   WO9102058-A.
                                                                                                            Bos taurus.
                                                                                                                                 Bovine vascular endothelial cell growth factor; angiogenesis; wound healing; hVEGF; pDGF.
                                                                                                                                                                Human vascular'ëndothelial cell growth factor 121.
                                                                                                                                                                                                                                       R11385 standard; Protein;
                                                                                                                                                                                             08-MAY-1991
                                                                                                                                                                                                                      R11385;
                                                                                                                                                                                                                                                                                                 61 cndeglecvpteesnitmqimrikph 86
                                                                                                                                                                                                                                                                                                                1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                 25;
                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                        (first entry)
E90S-0450883
                                 SOWO-US04227.
                                                                                                                                                                                                                                           121 AA
                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                 Gaps
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Query Match Best Local (

Similarity

96.4%; 96.2%;

Score 133; DB 21; Pred. No. 7.2e-14;

21;

Length 110;

0

Sequence

110 AA;

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RESULT
R42607
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CC VEGF analogues in which CYS residues are substd. are more stable.

CC VEGF analogues in which CYS residues are substd. are more stable.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
 27-JUL-1989;
14-DEC-1989;
                                                                    15-JUN-1993.
                                                                                               US5219739-A.
                                                                                                                                                                  Misc-difference
                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                           Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                        Human VEGF-121
                                                                                                                                                                                                                                                                                                                                  28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                        R42607 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 7(1-2); 94pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1991-073534/10
                                        27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (CALB-) CALIF BIOTECHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q11099
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 AA;
                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
89US-0387545.
89US-0450883.
                                        89US-0387545
                                                                                                                                                                /note= "inserted amino acid relative to bVEGF"
                                                                                                                                                                                                 Location/Qualifiers
7
                                                                                                ١
                                                                                                                                                   /note= "Lys 115 of hVEGF-121 is replaced by 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fiddes
                                                                                                                        amino acids encoded by an alternatively spliced exon in hVEGF-165 (see R38921)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 133; DB 12;
Pred. No. 8.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mitchell RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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RESULT
W09091
CCXXX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                         vascular permeability factor; vaccine; vascularisation; cancer;
glaucoma; eye tumour; trachoma; psoriasis; granuloma;
hypertrophic scar; post-crystalline fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences can
                                                                              WPI; 1996-450932/45
                                                                                                                                                                                                                                                                                                                                                                               W09091 standard; protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 3; Fig 7; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1993-205302/25
N-PSDB; Q49601.
                                                    Vaccine for treatment of vocamprises peptide derived
                                                                                                                                                                                                     JP08225462-A.
                                                                                                                                                                                                                                                                                                                   Human VEGF/VPF121 for treatment of vascularisation
                                                                                                                                                                                                                                                                                                                                                                 W09091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       be generated using PCR with human foetal vascular smooth muscle poly-A+\ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    required
                    Example; Page 6-7; 7pp; Japanese
                                                                                                                                  01-DEC-1994;
                                                                                                                                                         30-NOV-1995;
                                                                                                                                                                               03-SEP-1996.
                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                senile
                                                                                                                                                                                                                                                                                           VEGF; VPF; vascular endothelial cell growth factor;
                                                                                                                                                                                                                                                                                                                                          05-MAR-1997
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                                                                                                            (TOAG ) TOA GOSEI CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                            disk muscular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SCIOS NOVA INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 AA;
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                                                                                                                                  94JP-0298718
                                                                                                                                                         95JP-0312562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96.4%;
                                                                                                                                                                                                                                                degeneration
                                                                  of vascularisation
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                                                      from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 133; DB 14;
Pred. No. 8.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                      vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tischer
                                                     n diseases, e.g. (
endothelial cell
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                   diseases.
                                                     growth
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A vaccine for treatment and prevention of diseases caused

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Query Match
Best Local S
Matches 25
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Best Local Similarity 96.3
Matches 25; Conservative
 7
                                                                                                                           This is the amino acid sequence of the vascular permeability factor (VPF), a member of the growth factor family. Several VPF types are known having 121, 155, 189 or 206 amino acids. This sequence was used to generate a series of overlapping peptides having 10 residues which were used to raise antibodies against the VPF peptide. The two peptides w13578-9 generated the greatest antibody signal against the VPF protein. These clones were used to manufacture hybridomas producing monoclonal antibodies which are useful for diagnosis and treatment of cancers and
                                                                                                       Sequence
                                                                                                                                                                                                                                              Disclosure; Page 10; 13pp; Japanese.
                                                                                                                                                                                                                                                                  New peptide, useful as antigen for preparing vascular permeability factor monoclonal antibody - is used in treatment agent for cancers and as biochemical reagents
                                                                                                                                                                                                                                                                                                                            WPI; 1996-358508/36.
                                                                                                                                                                                                                                                                                                                                                  (TOAG ) TOA GOSEI CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                               18-OCT-1994;
10-JUN-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        W03677;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vascularisation comprising a cell growth factor or its fragments which stimulate vascular cell proliferation is provided. The vaccine can be used for treating cancers, glaucoma, eye tumours, trachoma, psoriasis, granuloma, hypertrophic scars, gost-crystalline fibrosis and senile disk muscular degeneration. A preferred protein for use in the vaccine is human VEGE/VPF121,
1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 cndeglecvpteesnitmqimrikph 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         σ
                                          Similarity 25; Conserv
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                                                                                                      121 AA;
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                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                            94JP-0278387.
94JP-0152805.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein; 121
                                                  96.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hybridoma; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      factor; growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  factor.
                                  Score 133; DB Pred. No. 8.1e 0; Mismatches
                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 133; DB Pred. No. 8.1e 0; Mismatches
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                                              .1e-14;
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8.1e-14;
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                                                         Length 121;
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RESULT
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R96043
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Best Local (
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                                                                                                                                                                                                                                      Matches
       JP07330795-A.
                          Homo sapiens.
                                                 vascular permeability factor; VPF121; monoclonal antibody;
                                                                           Vascular permeability
                                                                                                 12-JUL-1996
                                                                                                                     R93977;
                                                                                                                                   R93977 standard; protein; 121 AA.
                                                                                                                                                                                                                                                                                              This sequence represents the human vascular permeability factor (hVPF). The monoclonal antibody of the invention (MVI01) reacts with this hVPF sequence. MVI01 does not, however, react with a peptide composed of ten sequences ive residues of this sequence starting from an odd number from the N-terminus of this sequence (e.g. residues 1-10, residues 5-14, residues 47-56 etc.). The antibody can be used for diagnosis and treatment of cancer and other diseases. When it is used as an anti-cancer agent, it is preferably in the form of a chimeric or humanised antibody.
                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                               Monoclonal antibody reacting with human vascular permeability factor - useful for treatment and diagnosis of cancer and other diseases
                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 9; 10pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1996-175730/18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TOAG ) TOA GOSET CHEM IND LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
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                                                                                                                                                                                                                                  25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                     121 AA;
                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94JP-0152804.
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                                                                                             entry)
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                                                                          factor-121.
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Pred. No. 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human; monoclonal antibody; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antibody.
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.1e-14;
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Best Local S
Matches 25
                                                                          The patent discloses a vascularisation controlling vaccine comprising a cell growth factor which specifically promotes growth of endothelial cells. The vaccine is typically unimmunotherapy to remedy diseases caused by vascularisation, such as solid tumours, and to control the onset and recurrence of such diseases. Typical growth factors include vascular permeability factor (VPF) and vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequence represents VPF121. The patent relates to three ne short peptides derived from this sequence (see R93978 - R93986 to monoclonal antibodies raised against them which are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI;
                                                                                                                                                                                                                                                                                                           Vascularisation-controlling vaccine - contains endothelial cell growth factor, used in the immunotherapy of solid tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAY-1996;
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immunotherapy; vaccine; cancer; vascularisation.
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Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGF/VPF121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W40597 standard;
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                                                    factor (VEGF).
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                                                                                                                                                                                                                                                                    Page 7; 9pp; Japanese
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                                         present sequence is that of human VEGF/VPF121.
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Pred. No. 8.1e-14;
0; Mismatches 1;
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- R93980)
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Best Local :
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Best Local S
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                                                                                                                                                                                                14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The specific to veces and the specific to veces the specific to veces and the specific to veces the v
                             pharmaceutical
                                                             Growth factor;
                                                                                                                                  Human
                                                                                                                                                                                                                                                                                Y08278
                                                                                                                                                                                                                                                                                                                                              Y08278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        present in a sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New VEGF121-specific monoclonal antibody - useful for measuring levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1999-437318/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JP11178593-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-SEP-1999 (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (FJRE ) FUJIREBIO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y23943 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
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                                                                                                                                  growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                  factor
                                                                                                                                                                                                    (first
                                                             human; dimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97JP-0365972
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                                                                                                                                                                                                                                                                                                                                              Protein; 121
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                                                                                                                                                                                                entry)
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96.2%;
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96.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Japanese
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                                                                                                                                  fragment VEGF-A121
                                                             cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 133;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 133; DB 19;
Pred. No. 8.1e-14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <u>;</u>
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Best Local Similarity
Matches 25; Conserv
                                                     (COLL-)
(TECR )
  Keshet E,
                                                                                                                            21-JAN-1997;
06-SEP-1996;
                                                                                                                                                                                                   04-SEP-1997;
                                                                                                                                                                                                                                                 12-MAR-1998.
                                                                                                                                                                                                                                                                                                    WO9810071-A1
                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vascular endothelial growth factor; VEGF145; angiogenic factor; cell proliferation; cardiovascular disease; drug permeation. tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vascular endothelial growth factor-145 (VEGF145).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39,7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W56693 standard; Protein; 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Preparing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   yield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1999-278785/24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-MAY-1999.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                       COLLATERAL THERAPEUTICS.
TECHNION RES & DEV CO LI
          Neufeld G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        active growth factor dimers from inclusion bodies in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 7; 14pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kaerst U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                          97US-0784551.
96US-0025537.
                                                                                                                                                                                              97WO-US15471
                                                     RES & DEV CO LTD.
                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                       /note= "encoded by ACG
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96.2%;
     Poltorak Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mueller C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 133; DB Pred. No. 8.1e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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Vlodavsky
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 20;
.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 121;
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PXX PT XXX
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Y08279
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This represents a vascular endothelial growth factor-145 (VEGF145) which CC can be used to stimulate vascular cell proliferation. Polynucleotides encoding VEGF145 are useful for treatment of cardiovascular or vascular CC disease in mammalis, especially humans. They are also useful for enhancing CC vascular cell proliferation or to enhance endothelialization of diseased CC vascular cell proliferation or to enhance endothelialization of diseased CC vessels (especially re-endothelialization after angioplasty) in mammals. CC vEGF145, which hinds as weakly as VEGF165 to heparin, binds much better CC vEGF145 to the extracellular matrix (ECM). However, unlike VEGF189, CC This combination of properties render VEGF145 the only known VEGF variant CC that is secreted from producer cells and binds efficiently to ECM. CC that is secreted from producing cells retaining at the same time ECM that is secreted from producing cells retaining at the same time ECM combination of properties render VEGF145 the only known VEGF variant CC that is secreted from producing cells retaining at the same time ECM components along the path of diffusion. This ECM bound gool will consiste slowly allowing a longer period of activity. Additionally, the unlike VEGF forms such as VEGF121 thereby giving it a longer half-life.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                           Preparing active growth yield
                                                                  WPI; 1999-278785/24
                                                                                                Erdmann
                                                                                                                        (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH
                                                                                                                                                             05-NOV-1997;
                                                                                                                                                                                          05-NOV-1997;
                                                                                                                                                                                                                                                                                                                    Growth factor; human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                         06-MAY-1999.
                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                 pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                          14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                       Y08279;
                                                                                                                                                                                                                                                    DE19748734-A1.
                                                                                                                                                                                                                                                                                                                                                       Human growth factor protein fragment VEGF-A145
                                                                                                                                                                                                                                                                                                                                                                                                                                             Y08279 standard; Protein; 145 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vascular endothelial growth factor-145 splice variant - u anglogenic factor for treatment of cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1998-193621/17
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                                                                                                                                                        97DE-1048734.
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96.2%;
                                                                                             Mueller C,
                                    factor dimers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 133; DB 1
Pred. No. 1e-13;
0; Mismatches
                                                                                             Rinas U,
                                    from
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                                 inclusion bodies
                                                                                             Weich
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Claim 14;

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7; 14pp; German

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Best Local S
Matches 25
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; vascular endothelial growth factor; VEGF 145; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; punlmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                                             Novel methods and compositions for the prevention and treatment microvascular angiopathies by administration of angiogenic factor as vascular endothelial growth factor (VEGF) - ^{\circ}
 The present sequence represents native human vascular endothelial growth factor (VEGF) 145. VEGF is an anglogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated nonvascular tissues (served by the blood vessels) and for the prevention
factor (VEGF) 145. VEGF is an an for the prevention or repair of nonvascular tissues (served by t
                                                                                                                                                                                                                                                                                                                                                            09-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
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                                                                                                                                                                                                                                                            (SCIO-) SCIOS
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99US-0126406.
99US-0126615.
                                                                                                                                                                                                                              Johnson
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                                                                                46pp;
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. No. 1e-13;
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RESULT

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AC Y83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial growth factor; human; angiogenesis; VGEF; capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth hypoxia; hypercapnia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
Administering vascular endothelial growth factor (VGEF) can be for treating hypertension (especially salt-dependent hypertension Administration of VGEF promotes angiogenesis and/or vascular or capillary permeability. The method is also useful in treating disorders related to abnormal transport of solutes across endot
                                                                                                                                                                               Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-JUL-2000
                                                                                                                                                                                                                                   Novel methods for treating hypertension by administering a factor which increases angiogenesis and/or vascular permeability \,
                                                                                                                                                                                                                                                                                                                                                                                                               Schreiner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-SEP-1999;
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                                                                                                                                                                         3; Figure, 7; 51pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                               Johnson
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0; Mismatches
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cc cells. Such disorders include the treatment or prevention of kidney cd disease associated with impaired filtration or excretion of solutes; the treatment or prevention of diseases of the central nervous system cassociated with alterations in cerebrospinal fluid, e.g. stroke, comeningitis, tumous, infections, and bone growth disorders; treatment or prevention of fluid secretions in the lungs, e.g. acute respiratory distress syndrome, toxic alveolar injury, pneumonia, infections, complete intervention, cystic fibrosis; treatment or prevention of culmonary dysfunction arising from injury to the pulmonary dysfunction arising from prevention of disease arising compulmonary hypertension; treatment or prevention of culmonary hypertension; treatment or prevention of disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of solute flux; preservation or enhancement of function of culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal culmonary disordered transport of fluid and solutes across the intestinal disordered transport disordered transport disordered transport disordered transporte
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                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                          96.4%; Score 133; DB 21; Length 145; 96.2%; Pred. No. 1e-13; tive 0; Mismatches 1; Indels
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Search completed: November 9, 2000, 15:30:40 Job time: 105 sec 밁 δÃ Query Match
Best Local Similarity
Matches 25; Conserv

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Result
No.
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Listing first 45 summaries
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Maximum DB
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    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match Length
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138
1 CNDEGLESVPTEE
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                                                                                                                                                                                                                                                                                                                                                                                                                   /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5COMB.pep:*
/cgn2_6/ptodata/2/iaa/FCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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          PCT US96-09001-10
US-08-999-811-7
US-08-824-992B-4
US-08-807-992B-4
US-09-042-105-7
US-08-469-427A-15
US-08-569-063C-20
5194596-9
5219739-9
5219739-17
5219739-18
5332671-3
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US-08-807-992B-2
US-08-691-794-2
5332671-4
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US-08-807-992B-3
5240848-7
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US-08-807-992B-1
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5194596-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          164575
Sequence 20, Appl
Patent No. 5194596
Patent No. 5219739
Patent No. 5194596
Patent No. 5219739
Patent No. 5219739
Patent No. 5332671
Patent No. 5219739
                                                                                              Sequence 3, Appli
patent No. 519/39
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Patent No. 5219/39
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Patent No. 53/36/71
Patent No. 53/40848
Sequence 3, Appli
Patent No. 54/0848
Sequence 10, Appli
Sequence 17, Appli
Sequence 4, Appli
                                                                                                                                                                                                                                                                                                                     Description
                                                                                      Sequence
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TOPOLOGY: un'
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	188	133	133	133	102	102	102	207	207	188	188	188	170	149	149	149	19
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ALIGNMENTS	US-08-469-427A-5	US-08-569-063C-9	US-08-609-443B-9	US-08-469-427A-9	US-08-569-063C-2	US-08-609-443B-2	US-08-469-427A-2	US-08-569-063C-15	US-08-609-443B-15	US-08-569-063C-11	US-08-609-443B-11	US-08-469-427A-11	US-08-039-297B-8	US-08-569-063C-21	US-08-039-297B-2	US-08-469-427A-14	US-08-807-992B-24
	Sequence 5, Appli	Sequence 9, Appli	Sequence 9, Appli	Sequence 9, Appli	Sequence 2, Appli	Sequence 2, Appli	2, 7	Sequence 15, Appl	Sequence 15, Appl	11,	`	Sequence 11, Appl	Sequence 8, Appli	Sequence 21, Appl	Sequence 2, Appli	Sequence 14, Appl	Sequence 24, Appl

Sequence 3, Application US/08691794 Patent No. 6057428 GENERAL INFORMATION: CAPPLICANT: Royt, Francis H. APPLICANT: Royt, Francis H. APPLICANT: Retrara, Napoleone APPLICANT: Retrara, Napoleone APPLICANT: Wells, James A. APPLICANT: L1, Bing TITLE OF INVENTION: Variants of Vascular Endothelial Cell TITLE OF INVENTION: Variants of Vascular Endothelial Cell TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their TITLE OF INVENTION: Welfard their Uses, and Processes for their TITLE OF INVENTION Expenditure COUNTRY: United States TIPS 4411-4187 COUNTRY: United States TIPS 4411-4187 COUNTRY: United States TIPS 4411-4187 COMPUTER READABLE FORM: MEDIUM TYPE: Elephy disk COUNTRY: United States TIPS 4411-4187 COMPUTER READABLE FORM: MEDIUM TYPE: Elephy disk COUNTRY: United States TIPS 4411-4187 COMPUTER READABLE FORM: MEDIUM TYPE: TANGER: US/08/691.794 FILING DATE: US/08/691.794 FILING DATE: US/08/691.794 FILING DATE: US/08/691.794 FILING DATE: US/08/691.794 FAULT DATE:

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NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/45
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
5194596-19
; Patent NO. 5194596
; PATENT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5219739-20
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APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN C.;MITCHELL, RICHARD L.

JOHN C.;MITCHELL, RICHARD L.

JOHN C.;MITCHELL, RICHARD L.

JOHN C.;MITCHELL, RICHARD B.

JOHN C.;MITCHELL, 
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                                                                                                                         Query Match
Best Local S
Matches 25
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/(
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
61 CNDEGLECVPTEESNITMQIMRIKPH 86
                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                    1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                             LENGTH: 121
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25; Conserv
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                                                                                                                                              96.48;
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96.2%;
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                                                                                                             Score 133; DE Pred. No. 5.76 0; Mismatches
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Pred. No. 5e-15;
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                                                                                                                                           DB 5;
.7e-15;
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.7e-15;
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RESULT 5
US-08-807-992B-1
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US-08-784-551C-2
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                                                                                                                                                       Sequence 1, Application US/08807992B
Patent No. 6022541
GENERAL INFORMATION:
APPLICANT: Senger, Donald R
                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
                                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/
FILING DATE: January 21, 1
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                               NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                         APPLICANT: Sencer, APPLICANT: Dvorak,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: IBM P.C. DOS 5.0 SOFTWARE: FastSEQ for Windows 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavsky
APPLICANT: Zoya Poltorak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: 2018 POLTOTAK
TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: Suité 1000 CITY: Washington, D.C.

STATE: NA. COUNTRY. A.C.

COUNTRY. MASHINGTON, D.C.
                                                                                                                                                                                                                                                                                             61 CNDEGLECVPTEESNITMQIMRIKPH 86
                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                 1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (202) 463-6915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                      25;
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6013780
P.O.
                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
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David Prashker, Esq. O. Box 5387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IBM Compatible
                                                                                                                                       Donald R
Harold F
                                                                            Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blo
                                                                                                                                                                                                                                                                                                                                                                                   96.48;
                                                                     vessel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/784,551C
                                                                                                                                                                                                                                                                                                                                                              Score 133; DB Pred. No. 7.2e 0; Mismatches
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7.2e-15;
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COUNTRY:

USA

Massachusetts

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RESULT 7
5219739-19
; PATENT NO. 5219739
; PATENT NO. 5219739
; PATENT NO. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN G.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
; HYEGF 1.21 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                           밁
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Best Local Similarity
Thes 25; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ESULT 6)194596-18
;194596-18
;APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOH;C.;MITCHELL, RICHARD L.
;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO:18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (978) 525-
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUFTWARE: WordPerfect version 5.1 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/807,992B FILING DATE: March 3, 1997 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 32
CURRENT APPLICATION IDATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: DAVID PRESIDENT, ESQ.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIT
TELECOMMUNICATION NEORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 147 amino acids TYPE: amino acid STRANDEDNESS: single
                                                                                                                                                                                                                                         61 CNDEGLECVPTEESNITMQIMRIKPH 86
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les 25; Conserv
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96.28;
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Pred. No. 8.
                                                                                                                                                                                                                                                                                                               Mismatches
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.5e-15;
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.3e-15;
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US-08-567-200A-2
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GENERAL INFORMATION:
                                                    Query Match
Best Local
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Best Local
                                  Matches
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TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Nguyen, riques...
APPLICANT: Nguyen, riques...
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/(FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: A-TELECOMMUNICATION INFORMATION: TELEPHONE: (115) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: 'Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Rele
CURRENT APPLICATION DATA:
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                                                                                                                           MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                               LENGTH: 191 amino acids
                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/OFFILING DATE: 05-DEC-1995
CLASSIFICATION: 435
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                                                                                                                                                     TOPOLOGY:
                                                                                                                                                                                                                                                                                                                   NAME: Dreger, Walter H. REGISTRATION NUMBER: 24,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: California
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                                                  Local
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1 CNDEGLESVPTEESNITMQIMRIKPH 26
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94111-4187
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25; Conservative
                                                  Similarity
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                                  Conservative
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96.2%;
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Pred. No. 8.5e-15;
0; Mismatches 1
                                                Score 133; DB 3
Pred. No. le-14;
                                  Mismatches
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Suite 3400
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RESULT 10
US-08-691-794-2
US-08-691-794-2
; Sequence 2, Application US/08691794
; Patent No. 6057428
; GENERAL INFORMATION:
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US-08-807-992B-2
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                        APPLICANT: Li, Bing
TITLE OF INVENTION: V
TITLE OF INVENTION: C
TITLE OF INVENTION: E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                     APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                              APPLICANT:
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NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
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       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                   87 CNDEGLECVPTEESNITMQIMRIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sir
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FILING DATE: March 3, 1997
CLASSIFICATION: 424
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OPERATING SYSTEM: MS DOS
SOFTWARE: WOXDPERFECT VERSION 5.1
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                                                                                                                            Wells,
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Dvorak, Harold F
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O. Bex 5387
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                                                                                                                            James A.
                                      Variants of Vascular Growth Factor, Their Production 45
 Hohbach, Test,
                                                                                                                                                                                                                                                                                                                                                                                                                 96.4%; Score 133; DB 3
96.2%; Pred. No. 1e-14;
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Albritton & Herbert
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                                                               Endothelial Cell
Uses, and Processes for their
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RESULT 11
5332671-4
;Patent No. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; GROWTH FACTOR AND DAN ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/389,722
; FILING DATE: 04-AUG-1989
; PRIOR APPLICATION DATA:
, APPLICATION DATA:
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                                                                                                                                                           ; LENGTH: 191
5332671-4
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SEQ ID NO:4:
                                                                                         Query Match
Best Local 9
                                                                          Matches
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TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 60/002
EILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA: US 08/567
EILING DATE: 05-DEC-1995
ATTORNEY_AGENT INFORMATION:
NAME: Dreger Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE POOFER NEWER 24,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: A-63758/WHD TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                          APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
87 CNDEGLECVPTEESNITMQIMRIKPH 112
                     1 CNDEGLESVPTEESNITMQIMRIKPH 26
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amino acid
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California
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(415) 398-30
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                                                                     Consérvative
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                                                                                    96.4%;
96.2%;
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                                                                                    Score 133; DB 5
Pred. No. 1e-14;
                                                                       Mismatches
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5240848-11
;Patent No. 5240848
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US-08-807-992B-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence 3, Application US/08807992B Patent No. 6022541
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Best Local Similarity
Query Match
                                                                                                                                                                                                         APPLICATION NUMBER: US/08/807
FILING DATE: March 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                     TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/:
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
FILING DATE: 21-NOV-1988
                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                      TELECOMMUNICATION INFORMATION: TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
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                                                                                    TYPE: amino acid
STRANDEDNESS: si
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                                                                     TOPOLOGY:
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                                                                                                                      ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                          01930
                                                                                                                     215 amino acids
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                                                                     linear
                                                                                    single
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Harold F
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96.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in vivo to a tumor associated blood vessel
96.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/07/337,037
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Pred. No. 1
Score 133;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 5; Length 214;
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DB 3;

Length 215;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: KECK; PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR; PERMEABILITY FACTOR: HAVING 189 AMINO ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO:7:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 10, Application PC/TUS9609001 GENERAL INFORMATION:
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Best Local
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                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/465,96
FILING DATE: 6 JUN 95
FILING DATE: 8 MAR 1994
ATTORNEY/AGENT INFORMATION:
NAME: FERRARD, GREGORY D.
REGISTRATION NUMBER: 36,134
REFERENCE/DOCKET NUMBER: 3258
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
               INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/07/:
FILING DATE: 10-JUL-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 274,061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 11
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Human Vascular EndothelialGrowth Factor NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN,
ADDRESSEE: CECCHI, STEWART & OLSTEIN
STREET: 6 BECKER FARM ROAD
                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PS/2
OPERATING SYSTEM: MS-DOS
SOFTWARE: WORD PERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 INCH DISKETTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: HU, ET AL. TITLE OF INVENTION: H
SEQUENCE CHARACTERISTICS:
               TELEPHONE: 201-994-1744
201-994-1744
                                                                                                                                                                                                                                                                     APPLICATION NUMBER: PCT/US96/09001 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: U:
ZIP: 07068
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nes 25; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87 CNDEGLECVPTEESNITMQIMRIKPH 112
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: NEW JERSEY
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96.2%;
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                                                                                        325800-288
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Pred. No. 1
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); Mismatches 1
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.2e-14;
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Search completed: November 9, 2000, 15:33:02 Job time: 243 sec	Qy 1 CNDEGLESVPTEESNITMQIMRIKPH 26 	Query Match 96.4%; Score 133; DB 4; Length 231; Best Local Similarity 96.2%; Pred. No. 1.3e-14; Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	; LENGTH: 231 AMINO ACIDS ; TYPE: AMINO ACID ; STRANDEDNESS: ; TOPOLOGY: LINEAR ; MOLECULE TYPE: PROTEIN PCT-US96-09001-10
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Result
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM protein - protein search, using sw model
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                               pred. No.
score grea
and is der
                                                                                                                                                                                                                                                   Score

    No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.

                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                          Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT: *
2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT: *
3: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT: *
4: /SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT: *
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8: /SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT: *
8: /SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT: *
9: /SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT: *
10: /SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT: *
11: /SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT: *
12: /SIDS1/gcgdata/geneseq/geneseqp/AA1993.DAT: *
13: /SIDS1/gcgdata/geneseq/geneseqp/AA1993.DAT: *
14: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT: *
15: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT: *
16: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT: *
17: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT: *
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19: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT: *
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Gapop 10.0 , Gapext 0.5
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237
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Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CERRKHLFVQTCKCSCKNTD.....RCKARQLENERTCRCDKPRR
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  1881
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14.778 Million cell updates/sec
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            Bovine vascular en Bovine VEGF-164.
Human VEGF-165 H
Vascular endotheli Vascular endotheli
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17	21	21	21	20	20	19	19	19	19	18	17	17	16	11	21	20	20	19	19	19	13	13	13	13	11	11	21	20	20	18	18	18
	Y83035	Y69414	Y90403	Y07725	Y33439	W57399	W57398	W62525	W69331	W38242	R94002	W00724	R91076	R08002	Y57028	Y33441	Y33440	W53643	W53642	W53639	R27352	R27351	R27350	R22347	R08001	R08120	Y92005	Y08281	Y08280	W31096	W31095	W31094
VEGF165 Cys+4. Ho		Amino acid sequenc	VEGF encoded by cl	Human VEGF protein	Parapox virus VEGF	Variant vascular e	U2	acid	Human VEGF protein	Vascular endotheli		lar endoti		Human vascular end		virus	<	endo	endothel		of.	ō,	uence of v	scular End	scular e	lian glion	vascula	growth	owth fact	endothel	cular endothel	Vascular endotheli

ALIGNMENTS

RESULT R10911

R10911 standard; Protein; 164 AA.

R10911;

Bovine vascular endothelial 08-MAY-1991 (first entry)

cell growth factor 164.

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DNA encoding vascular endothelial cell growth factor - used for producing the factor for angiogenesis and re-endothelialisation in wound healing
                                                               Tischer ER, Abrhamam,
                                                                                                14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                          Bos taurus.
                                                                                                                                                                                                  Bovine vascular endothelial cell growth factor; angiogenesis;
                                       WPI; 1991-073534/10.
N-PSDB; Q10791.
                                                                               (CALB-) CALIF BIOTECHN INC.
                                                                                                                        27-JUL-1990;
                                                                                                                                          21-FEB-1991.
                                                                                                                                                          WO9102058-A.
                                                                                                                                                                                          wound healing; bVEGF; PDGF.
                                                                                                39US-0450883
39US-0387545
                                                                                                                         90WO-US04227
                                                                Fiddes
                                                                'n,
                                                                 Mitchell
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CC eg. preventing the growth of tumours.

CC See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
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Best Local
                                                                                                                                                           27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
               Isolated DNA sequences, expression vectors and transformant cells used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                        WPI; 1993-205302/25.
P-PSDB; Q44259.
                                                                                                          Abraham JA,
                                                                                                                                                                                                           27-JUL-1989;
             required
                                                                                                                                (SCIO-) SCIOS NOVA INC.
                                                                                                                                                                                                                                   15-JUN-1993.
                                                                                                                                                                                                                                                           US5219739-A.
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Vascular Endo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                 esis; wound l
Endothelial
                                                                                                          Fiddes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                        89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                         89US-0387545
                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                         'n,
                                                                                                                                                                                                                                                                                                                                                                          healing; mitogen; vascular endothelial cells;
1 Cell Growth Factor; bVEGF-164; bVEGF-120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90.9%;
                                                                                                                                                                                                                                                                          "encoded by exon which is absent in the alternatively spliced coding sequence which encodes bymgr-120"
                                                                                                         Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206; DB Pred. No. 1.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English.
                                                                                                       RL,
                                                                                                      Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 12;
.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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RESULT
R38921
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
        The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle poly-A+ RNA as template.
                                                                                                                                                                                                                                                          27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
                                                                                                                         Isolated DNA sequences, expression vectors and transformant cells used for large scale prodm. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                               Example 7; Fig 7; 40pp;
                                                                                                                                                                               WPI; 1993-205302/25.
N-PSDB; Q44260.
                                                                                                                                                                                                                 Abraham
                                                                                                                                                                                                                                   (SCIO-) SCIOS NOVA INC.
                                                                                                                                                                                                                                                                                                         27-JUL-1989;
                                                                                                                                                                                                                                                                                                                               15-JUN-1993.
                                                                                                                                                                                                                                                                                                                                                    US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-OCT-1993 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R38921;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence of Q44259 contains an open reading frame corresponding to the 164 amino acid bovine vascular endothelial cell growth factor (bVEGF-164, i.e. R38920). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 120 amino acid bVEGF (see R38916).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R38921 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 4 and Claim 1; Fig 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           w
                                                                                                                                                                                                                JA,
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                                                                                                                                                                                                             Fiddes JC,
                                                                                                                                                                                                                                                           .90US-0559041.
                                                                                                                                                                                                                                                                      89US-0387545.
                                                                                                                                                                                                                                                                                                      89US-0387545
                                                                                                                                                                                                                                                                                                                                                                                   /note= "inserted amino acid relative to 115. 159
                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                           /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86.98;
                                                                                                                                                                                                                                                                                                                                                                  "replaced by Lys in hVEGF-121"
                                                                                               English.
                                                                                                                                                                                                            Mitchell RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 206; DB Pred. No. 1.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
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                                                                                                                                                                                                            Tischer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14;
..7e-15;
                                                                                                                                                                                                            EG;
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Sequence

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Best I
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                                                                                                                                                                                                                                                                                                             02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
         W31085-W31096 are vascular endothelial growth factor (VEGF) variants. Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FDT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis
 to the useful is desi
                                                                                                                                                                          Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         substitution; drug screening; kinase domain binding FMS-like tyrosine kinase binding region; FLT-1; dritesting; vasculogenesis; angiogenesis; metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
Synthetic.
                                                                                                                                                  Claim
                                                                                                                                                                                                                           WPI; 1997-179270/16
                                                                                                                                                                                                                                                                                                                                                               23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                        06-MAR-1997.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               neoplasia.
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                                                                                                                                                                                                                                                                                       (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
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Tocal Similarity
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                                                                                                                                                   6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard; Protein; 165
                                                                                                                                                                                                                                                              28
treating indications where vasculogenesis or for treatment of an underlying disease state.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                 -; 130pp;
                                                                                                                                                                                                                                                                                                              96US-0691791.
95US-0002827.
95US-0567200.
                                                                                                                                                                                                                                                                                                                                                               96WO-US13621
                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note- "wild-type Glu 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note- "wild-type Asp replaced 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                               Ferrara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "wild-type Glu replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86.9<del>8</del>;
                                                                                                                                                 English
                                                                                                                                                                                                                                                               Keyt
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    kinase domain binding region; KDR ing region; FLT-1; drug screening;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     drug screening
                                                                                                                                                                                     to identify with respect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KDR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
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RESULT RESULT OF THE PROPERTY 
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Best Local
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25-AUG-1995;
05-DEC-1995;
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Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FUP-1). All indicated residues are preferably replaced with alamine. TME variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants
                                                                                                                                                                                                                                                       Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           substitution; drug screening; kinase domain binding region; KDI FMS-like tyrosine kinase binding region; FLT-1; drug screening
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                                                                                                                                                                W31085-W31096 are vascular endothelial growth factor (VEGF) variants
                                                                                                                                                                                                              Claim
                                                                                                                                                                                                                                                                                                                                                      WPI; 1997-179273/16.
                                                                                                                                                                                                                                                                                                                                                                                                                          Cunningham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   testing; vasculogenesis; angiogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC.
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                                                                                                                                                                                                           6; Page -: 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular
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95US-0002827.
95US-0567200.
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90.98;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "wild-type Arg
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                                                                                                                                                                                                                                                                                                                                                                                                                          z
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No. 1.7e-15;
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                                                                                                                                                                                                                                                                                                                                                                                                                          Nguyen
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                        Vascular endothelial cell growth factor vari
candidates having agonistic or antagonistic
to KDR and/or FLT receptor binding
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05-DEC-1995;
      Claim 6; Page -; 130pp; English
                                                             WPI; 1997-179270/16
                                                                                Cunningham BC, Wells JA;
                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                                              06-MAR-1997.
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                                                                                                                                                                                                                      Misc-difference
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Misc-difference 82
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                                                                                                                                                                                                                                                                                                                                                                neoplasia.
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Pred. No. 1.7e-15;
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C Especially preferred modifications comprise mutations in the kinase domain binding region (RDR) or the FMS-like tyrosine kinase binding region (FUT-1). All indicated residues are preferably replaced with calanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties of with respect to KDR and/or FLT receptor binding, by measuring the ceffect the candidate has on the binding properties of the variants of the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis cuseful for treating indications where vasculogenesis or angiogenesis of the desired for treatment of an underlying disease state.

CC N.B. This sequence is not given in the specification, it was created the content of the con
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Best Local
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25-AUG-1995;
05-DEC-1995;
Vascular endothelial cell growth factor vari
candidates having agonistic or antagonistic
                                                           WPI; 1997-179270/16.
                                                                                                       Cunningham BC, Wells JA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                neoplasia.
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nilarity 90.9%;
Conservative
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factor variant - used

to identify with respect

KDR and/or

FLT receptor binding

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25-AUG-1995;
05-DEC-1995;
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                         W31089;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W31089 standard;
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WPI; 1997-179270/16.
                                  Cunningham BC,
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                                                         (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr
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40; Conserv
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                                   Ferrara
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90.9%;
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Pred. No. 1.7e-15;
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N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                       /note-
Misc-difference: 83
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                                                                                                   06-MAR-1997.
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  02-AUG-1996;
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Pred. No. 1.7e-15;
0; Mismatches 0;
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RESULT 10
W31091
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W31085-W31096 are vascular endothelial growth factor (VEGF) variants.

C Especially preferred modifications comprise mutations in the kinase of domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FUT-1). All indicated residues are preferably replaced with claimine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the ceffect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis of is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created to the KDR and claimed specified mutant of wild-type mature VEGF.
           06-MAR-1997.
                                   W09708313-A1
                                                                            Misc-difference
                                                                                                         Misc-difference
                                                                                                                                  Misc-difference
                                                                                                                                                                                                                        substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                 VEGF; vascular endothelial growth factor; variant; mutant;
                                                                                                                                                                                                                                                                                             Vascular endothelial growth factor variant used in
                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                  W31091 standard;
                                                                                                                                                                                                                                                                                                                              16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 18; Page -; 130pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1997-179270/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cunningham BC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wells
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                              errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                             /note= "wild-type Glu replaced by Ala"
83
                                                                                                       /note= "wild-type Ile replaced
64
                                                                                                                                  Location/Qualifiers
                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95US-0002827
95US-0567200
                                                                                                                                                                                                                                                                                                                                                                                Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrara N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90.9%;
                                                         "wild-type Ile replaced by Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 206; DB Pred. No. 1.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 18;
.7e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nguyen
                                                                                                                уd
                                                                                                                Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 165;
                                                                                                                                                                                                                                                                                             drug
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                                                                                                                                                                                                                                                                                             screening
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C Especially preferred modifications comprise mutations in the kinase companies of the properties of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                       VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region FMS-11ke tyrosine kinase binding region; FLT-1; drug scree testing; vasculogenesis; angiogenesis; metastasis; cancer;
WO9708313-A1
                                                          Misc-difference
                                                                                                     Misc-difference
                                                                                                                                              Misc-difference
                                                                                                                                                                                                             Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial growth factor variant used in
                                                                                                                                                                                                                                                                            neoplasia.
                                                                                                                                                                                                                                                                                                                                                                                                                                            16-JAN-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W31092;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W31092 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 22; Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cunningham BC, Wells JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΛĄ,
                                                          /note= "wild-type Ile replaced
79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95US-0691791.
95US-0002827.
95US-0567200.
                                                                                                                                              Location/Qualifiers
                             /note= "wild-type Gln replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96WO-US13621
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                                                                                                                  "wild-type Phe
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Pred. No. 1.7e-15;
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                                                                                                                  replaced
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18;
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                                                                     by Ala"
                                                                                                                  by Ala"
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RESULT 12
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Best Local Similarity
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25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W31085-W31096 are vascular endothelial growth factor (VEGF) variants Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FTT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FTT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FTT-1 receptors. Compositions identified may be
                                                                                                                                                substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou
                                                                                                                                                                                          VEGF; vascular endothelial growth factor; variant; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 24; Page -; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cunningham BC,
Misc-difference
                        Misc-difference
                                                                                                          Homo sapiens
                                                                                                                                                                                                                    Vascular endothelial growth factor variant used in drug screening
                                                                                                                                                                                                                                                   16-JAN-1998
                                                                                                                                                                                                                                                                                                       W31093 standard;
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                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                is desired for treatment of an underlying disease state. N.B. This sequence is not given in the specification, it from a claimed specified mutant of wild-type mature VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           useful for treating indications where vasculogenesis or angiogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                               122
                                                                                                                                                                                                                                                                                                                                                                                          2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                             errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         165
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95US-0002827.
95US-0567200.
/note=
79
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                                                    Location/Qualifiers
                        /note- "wild-type Ile replaced by Ala" ^{46}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ferrara
                                                                                                                                                                                                                                                                                                         Protein; 165
                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                90.9%;
        "wild-type Ile replaced by Ala"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 206; DB 18; Pred. No. 1.7e-15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 165;
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RESULT
W31094
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Best Local S
Matches 40
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25-AUG-1995;
05-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        w31085-w31096 are vascular endothelial growth factor (VEGF) variants. Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FTG-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FIG receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FIG-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                            substitution; drug screening; kinase domain binding region; kurs-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumo
                                                                                                                                VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
Synthetic
                                                                                                                                                                                                     Vascular endothelial growth factor variant used
                                                                                                                                                                                                                                                    16-JAN-1998
                                                                                                                                                                                                                                                                                                  W31094;
                                                                                                                                                                                                                                                                                                                                               W31094 standard; Protein; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165 AA;
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                                                                                                                                                                                                                                                    (first entry)
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 206; DB 18;
Pred. No. 1.7e-15;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                               B
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RESULT 14
W31095
ID W31095
AC W31095
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Best Local
                                                                                                              VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumou:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alarine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis useful for treatment of an underlying disease state.

N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                Synthetic.
                                                                                                                                                                                                                                               Vascular endothelial growth factor variant used
                                                                                                                                                                                                                                                                                                                                                                W31095
                                                   Homo sapiens
                                                                                                      neopiasia.
                                                                                                                                                                                                                                                                                                             16-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                        W31095 standard; Protein; 165
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25-AUG-1995;
05-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial cell growth factor variant - used candidates having agonistic or antagonistic properties to KDR and/or FLT receptor binding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1997-179270/16.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽,
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                     entry)
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Pred. No. 1.7e-15;
0; Mismatches 0;
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                                                                                                                                                                                                                                          drug screening.
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RESULT 15
W31096
ID W31096
XX W31096
XX W31096
XX U31096
XX U31096
XX U545
XX 
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Best Local S
Matches 40
VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR FMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculgenesis; angiogenesis; metastasis; cancer; tumo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W31085-W31096 are vascular endothelial growth factor (VEGF) variants. Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FLT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.
                                                                                                                      Vascular endothelial growth factor variant used
                                                                                                                                                                                      16-JAN-1998
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25-AUG-1995;
05-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                               122 errkhlfvqdpqtckcsckntdsrckarqlelnertcrcdkprr 165
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1997-179270/16
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                                                                                                                                                                                                                                                                                standard; Protein; 165 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                 entry)
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Pred. No. 1.7e
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 18;
.7e-15;
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                                                                                                                      screening.
                                                  KDR;
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Especially preferred modifications comprise mutations in the kinase domain binding region (KDR) or the FMS-like tyrosine kinase binding region (KDR) or the FMS-like tyrosine kinase binding region (FLT-1). All indicated residues are preferably replaced with alanine. The variants may be used in an assay for identifying candidate compositions having agonistic or antagonistic properties with respect to KDR and/or FIT receptor binding, by measuring the effect the candidate has on the binding properties of the variants to the KDR and/or FIT-1 receptors. Compositions identified may be useful for treating indications where vasculogenesis or angiogenesis is desired for treatment of an underlying disease state.

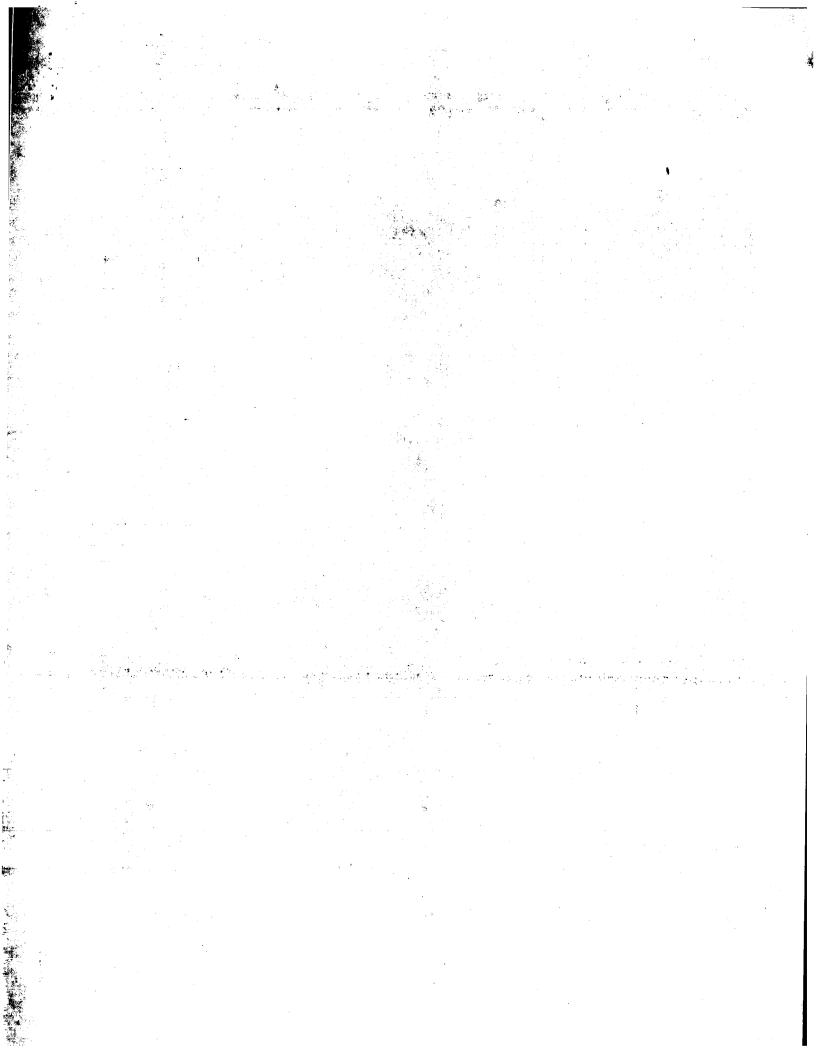
N.B. This sequence is not given in the specification, it was created from a claimed specified mutant of wild-type mature VEGF.
                                                                                      Query Match 86.9%;
Best Local Similarity 90.9%;
Matches 40; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-AUG-1996;
25-AUG-1995;
05-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "wild-type Ile replaced by Ala" Misc-difference 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial cell growth factor variant - used to identify candidates having agonistic or antagonistic properties with respect to KDR and/or FLT receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cunningham BC, Wells JA;
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Synthetic.
                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 31; Page ~; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-MAR-1997.
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165 AA;
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95US-0002827.
95US-0567200.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mote= "wild-type Glu replaced 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "wild-type Ile replaced by Ala"
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                                                                                          0
                                                                                                        Score 206; DB 18;
Pred. No. 1.7e-15;
                                                                                          Mismatches
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                                                                                                                                 DB 18; Length 165;
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                                                                                          0
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                                                                                        Indels
                                                                                          4:
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Search completed: November 9, Job time: 104 sec

2000, 15:30:39

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122



Page 1

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Title:
Perfect score:
Sequence:
                                                                                                                                                             Run on:
                                                                                                                                                                                                OM protein - protein search, using sw model
Scoring table:
                                                            US-09-266-543-6
237
                                                                                                               November 9, 2000, 15:33:02; Search time 63.67 Seconds (without alignments) 10.793 Million cell updates/sec
                                       1 CERRKHLFVQTCKCSCKNTD......RCKARQLENERTCRCDKPRR 41
                                                                                                                                                                                                                                                          GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
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Searched: 164575 segs, 16761186 residues BLOSUM62 Gapop 10.0 , Gapext 0.5

Total number of hits satisfying chosen parameters:

164575

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

Issued_Patents_AA:*

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4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result

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2 14	206 206	9.0	164 164	ហហ	194596-1 219739-1	tent
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4.	206	6	165	σ	194596-1	tent
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9	206	٥.	191	ω	S-08-567-200A-	3
10	206	5	191	ω	-08-80	Sequence
11	206	6.	191	ω	-08-691-	Sequence
12	206	ა	191	ű	5332671-4	Patent No.
13	206		214	տ	5240848-11	Patent No.
14	206		215	ω	08-80	3
15	206	5	215	σ	ω	Patent No.
16	206	5	215	5	084	
17	206	5	231	4	PCT-US96-09001-10	3
91.	206	٥.	232	N	08-999-811	Sequence
19	206	ტ	232	N	-08-824-99	Sequence
20	206		232	ω	-08-807-992	Sequence
21	206	٥.	232	ω	-09-042-105	equenc
22	100	۶.	17	ω	07-992B-	Sequence
23	89.5	7.	19	ω	US-08-807-992B-7	Sequence
24	89.5	7.	19	ω	-807-992B-1	Sequence
25	89.5	7.	19	w	-08-807-992B-1	Sequence
26	89.5	7.	19	w	9-70	Sequence
27	85	5			-09-469-4377-	eguen
,	20	,	55	-	00-409-42/A-	

Query Match

86.9%; Score 206;

DB 5;

Length 164;

RESULT 2 5219739-17 5219739-17 ; Patent No. 5219739. ; Patent No. 5219739. ; Patent No. 5219739. ; Patent No. 5219739. ; Paplicant: Tischer, Edmund G.; Abraham, Judith A.; Fiddes, John C.; Mitchell, Richard L. ; JOHN C.; Mitchell, Richard L. ; JOHN C.; MITCHELL, RICHARD L. ; HORGE 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN ; VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 ; UNMBER OF SEQUENCES: 40 ; CURRENT APPLICATION DATA: ; APPLICATION UNMBER: US/07/559,041 ; FILING DATE: 27-JUL-1990 ; PRIOR APPLICATION DATA: ; APPLICATION UNMBER: 450,883 ; FILING DATE: 14-DEC-1989 ; APPLICATION NUMBER: 387,545 ; FILING DATE: 27-JUL-1989 ; SEQ ID NO:17: ; LENGTH: 164	Query Match B6.9%; Score 206; DB 5; Length 164; Best Local Similarity 90.9%; Pred. No. 5.7e-17; Matches 40; Conservative 0; Mismatches 0; Indels 4; Qy 2 ERRKHLFYQTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41	RESULT 1 5194596-17 5194596-17 ; PATEOL NO. 5194596 ; PATEOL NO. 5194596 ; C. MITCHELL, RICHARD L. ; C. MITCHELL, RICHARD L. ; COUNTER OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL FROWTH FACTOR ; CUNMER OF SEQUENCES: 32 ; CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/450,883 ; FILING DATE: 14-DEC-1989 ; PRIOR APPLICATION DATA: APPLICATION NUMBER: 387,545 ; FILING DATE: 27-JUL-1989 ; SEQ ID NO:17: LENGTH: 164 5194596-17	ALIGNMENTS	29 85 35.9 55 2 US-08-569-063C-3 30 85 35.9 188 1 US-08-469-427A-5 31 85 35.9 188 2 US-08-609-443B-5 32 85 35.9 188 2 US-08-609-443B-5 33 85 35.9 195 1 US-08-609-443B-7 34 85 35.9 195 2 US-08-609-443B-7 35 85 35.9 195 2 US-08-609-443B-7 36 80 33.8 188 1 US-08-609-443B-7 37 80 33.8 188 1 US-08-609-443B-11 38 80 33.8 188 2 US-08-609-443B-11 39 74 31.2 350 2 US-08-609-443B-11 40 74 31.2 350 2 US-08-609-63C-11 41 74 31.2 350 2 US-08-99-811-4 42 74 31.2 350 3 US-09-042-105-4 43 74 31.2 419 3 US-09-042-105-18 45 74 31.2 419 3 US-09-042-105-18 46 74 31.2 419 3 US-09-042-105-18 5 Sequence 47 31.2 419 3 US-09-042-105-18 5 Sequence 48 74 31.2 419 3 US-09-042-105-18 5 Sequence 5 Sequence 6 Sequence 6 Sequence 6 Sequence 7 Sequence 7 Sequence 7 Sequence 7 Sequence 8 Sequence 8 Sequence 9 Sequence
S, D D BGF121	164; ls 4	CE s,		Sequence 3, Appli Sequence 5, Appli Sequence 5, Appli Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 11, Appl Sequence 11, Appl Sequence 11, Appl Sequence 4, Appli Sequence 2, Appli

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RESULT 5
5219739-19
; Patent No. 5219739
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, ; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 4
5194596-18
; PATENT NO. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5194596-18
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5219739-18
; PATEOR NO. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND
; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOYINE AND HUMAN
; VAASCULAR ENDOTHELLAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF
; NUMBER OF SEQUENCES: 40
; NUMBER OF SEQUENCES: 40
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Best Local 9
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/45
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 90.9 Matches 40; Conservative
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APPLICATION NUMBER: US/O
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                              122 ERRKHLFYQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 164
                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 164
                                                                                                                                                                                                      2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 ERRKHLEV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 86.9%;
Local Similarity 90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 164
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                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                   Score 206; DB 5;
Pred. No. 5.8e-17;
0; Mismatches (
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0; Mismatches 0;
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                                                                                                                                                                                                                                                                                         Length 165;
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US-08-469-427A-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN ;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Eriksso:
APPLICANT: Olofsso:
APPLICANT: Alitalo
APPLICANT: Pajusol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15, Application US/08469427A Patent No. 5607918,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                        TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-UN-1995
                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                               REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Pajusola, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DA CODING THEREFOR
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: LC
STATE: LC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 40 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 165
                                    TOPOLOGY:
                                                STRANDEDNESS:
                                                                                                                                                                                                                       NAME: Evans, Joseph D
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
                                                                                           ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
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                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                     189 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Evenson, McKeown, Edwards & 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eriksson, Ulf
Olofsson, Birgitta
Alitalo, Kari
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                                    linear
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                  single
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Pred. No. 5.8e-17;
0; Mismatches 0
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2,

Query Match

86.98;

Score 206;

DB 1;

Length 189;

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5332671-3
; Patent No. 5332671
; PAPPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; APPLICANT: FERRARA, PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR AND DNA ENCODING SAME
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                                                                                      RESULT
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                                                                                                                                                                                                                                         Query Match
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INFORMATION FOR SEQ ID NO: 20:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/469,427
FILING DATE: 06-UN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: EVANS, Joseph D
REGISTRATION NUMBER: 26,
                                                                                                                                                                                                                                                                                                        TOPOLOGY: 1
MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: OLOFSSON, Birgitta
APPLICANT: ALITALO, Kari
APPLICANT: PAJUSOLA, Katri
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                                                                                                                                   APPLICANT:
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                                                                                                                                                                                                                        Local
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                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
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ZIP: 20005
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                                                                                                                                                                                                        l Similarity
40; Conserv
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Pred. No. 6.6e-17;
0; Mismatches 0;
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                                                                                                                                                                                                                                      Length 190;
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; MOLECULE TYPE: protein US-08-567-200A-2
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Matches
                 Query Match
Best Local :
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Best Local Similarity
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FILING DATE: 04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 359,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                                                                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dieger, Walter H.
REGISTRATION NUMBER: 24.190
REFERENCE/DOCKET NUMBER: A-62
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
                                                                                                                                                                               TELEFAX: (415) 398-32
TELEX: 910 27729
INFORMATION FOR SEQ ID NO:
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                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TXPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CURRENT APPLICATION DATA:
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CITY: San Francisco
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    Application US/08567200A
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                 Similarity
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7: United States
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Conservative
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Ferrara, Napoleone
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Growth Factor, Their Uses, and Processes for their
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                 90.9%;
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Pred. No. 6.6e-17
0; Mismatches (
             Score 206; DB 3;
Pred. No. 6.6e-17;
Mismatches
                             Length 191;
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Gaps
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2 ERRKHLFV----QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41

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                                                                                                                                                                                  GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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                                                    TITLE OF INVENTION:
TITLE OF INVENTION:
                                    NUMBER OF SEQUENCES:
                                                                                               APPLICANT:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: MS DOS
SOFTWARE: WORDSFEET VERSION 5.1
CURRENT APPLICATION DATA:
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ATTORNEY/AGENT INFORMATION:
Partial Prashker, Esq.
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                                                                                                                                                                                                                                                                                 148 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191
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TITLE OF INVENTION:
TITLE OF INVENTION:
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         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: David Prashker, Esq. REGISTRATION NUMBER: 29,693
                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE:
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                                                                                                                                                                                                                                                                                                                                            1 Similarity 90.9
                                                                                                                                                                                                 , Application US/08691794 6057428
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                                                  Li, Bing PARTION: Variants of Vascular Endothelial Cell PENTION: Growth Factor, Their Uses, and Proces
                                                                                                                      Nguyen, Francis H.
Ferrara, Napoleone
Cunningham, Brian C.
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                                                                                                           Wells, James A.
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Flehr, Hohbach, Test, Albritton & Herbert
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O. Box 5387
                       ADDRESS:
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                                                 Growth Factor, Production
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Harold F
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Pred. No. 6.6e-17;
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                                                           and Processes
                                                                                                                                                                                                                                                                                                                                                                   Length 191;
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RESULT 12
532671-4
;Patent No. 532671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;GROWTH FACTOR AND DNA ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA;
; CURRENT APPLICATION DATA;
; CURRENT APPLICATION DATA;
                                                                                                                                    ; LENGTH: 191
5332671-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; MOLECULE TYPE: US-08-691-794-2
                                                                                                                                                                 FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
:SEQ ID NO:4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 40
                                                    Matches
                                                                  Best Local Similarity
                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (415) 398-324
TELEX: 910 277299
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 60, FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA: US 08, APPLICATION NUMBER: US 08, FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Relections DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/(
FILING DATE: 02-AUG-1996
CLASSIFICATION 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                 FILING DATE: 04-AUG-1989 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
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TELECOMMUNICATION INFORMATION:
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2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Dreger; Walter H. REGISTRATION NUMBER: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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OPERATING SYSTEM:
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San Francisco
Califórnia
                                                  Conservative
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SYSTEM: PC-DOS/MS-DOS
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.02-AUG-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90.9%;
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                                                            Score 206; DB 5;
Pred. No. 6.6e-17;
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Pred. No. 6.6e-17;
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                                              Mismatches
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                                                                            Length 191;
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148

ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 191

41

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RESULT 13
5240848-11
; PATENT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH
; APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH
; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
; NUMBER OF SEQUENCES: 11
; NUMBER OF SEQUENCES: 11
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TOPOLOGY: US-08-807-992B-3
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US-08-807-992B-3
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/33

FILING DATE: 10-JUL-1989

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 274,061

FILING DATE: 21-NOV-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                          TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                 REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                  SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,9921
FILING DATE: March 3, 1997
                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 214
                                                                                                                                                                                                                 NAME:
                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PS,
OPERATING SYSTEM:
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                                      STRANDEDNESS:
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Magnolia
                                                                                                                                                                                       David Prashker, Esq. RATION NUMBER: 29,693
                                                      amino acid
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                                                                          215 amino acids
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O. Box 5387
                                    single
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Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood vessel
                                                                                                                                                                                                                                                                                                                                                   MS DOS
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Query Match

86.98;

Score 206;

DB 3;

Length 215;

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RESULT 15
5219739-22
;Patent No. 5219739
; PATENT TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
JOHN C.;MITCHELL, RICHARD L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
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Search completed: November Job time: 243 sec
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                                                                                                                                                                                                                                              5219739-22
                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND SPECIFICATION OF BOYINE AND HUMAN PARASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                          FILING DATE: 27-JUL-1989
SEQ ID NO:22:
LENGTH: 215
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Best Local Similarity
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Matches 40; Conserva
                                                                                                                                                       Matches
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APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                  172 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 215
                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
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                                                                                                                                                         40;
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90.9%;
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                   9, 2000, 15:33:02
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Pred. No. 7.4e-17;
0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
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Perfect score:
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        A_Geneseq_36:*
1: /SIDS1/gcgdai
2: /SIDS1/gcgdai
3: /SIDS1/gcgdai
4: /SIDS1/gcgdai
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length: 2000000000
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        268485 seqs, 34193795 residues
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114
                                                                                                                                                                                                                                                                                                                                                  /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
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/SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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Copyright (c) 1993 - 2000 Compugen Ltd.
//SIDSI/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

12	11	10	9	8	7	6	U	4	ω	N	<u></u>	Result
101	101	101	101	101	101	105	105	105	105	105	105	Score
88.6	88.6	88.6	88.6	88.6	88.6	92.1	92.1	92.1	92.1	92.1	92.1	Query Match
190	190	146	146	146	146	190	190	190	190	141	133	% Query Match Length DB
13	11	21	19	13	13	17	17	17	17	20	17	. B
R22347	R08120	Y57029	W53640	R27354	R22348	W03042	W03040	W03039	W03038	Y24316	W03041	Ħ
Rat Vascular Endot	Mammalian glioma-d	VEGFA 146 amino ac	Vascular endotheli	Sequence of vascul	Alternative form o	Mutant vascular en	Mutant vascular en	Mutant vascular en	Mutant vascular en	Mouse vascular end	Mutant vascular en	Description

New receptor protein tyrosine kinase assays - used to identify inhibitors or activators which can be used in therapy involving angiogenesis or vascular permeability

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W32860 W42706 W42702 W89669 Y81489 Y87474 Y67224 R11665 R33438	R07270 R10916 R38916 R10911 R38920 R08001 R08081 R13381 R36681	R27350 R27351 R27352 W53643 W53644 W536441 Y570241 Y570241 Y570241 Y570241 Y57030 Y370
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ALIGNMENTS

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RESULT
W03041
ID W03
                                                                                                                                                                                              Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour therapy; wound healing; vascular endothelial growth factor;
                                                                                                                                                                                                                                          Mutant vascular endothelial growth factor (truncated protein).
                                                                                                                                                                                                                                                                                       W03041;
                                                                                                                                                                                                                                                                                                            W03041 standard; protein; 133 AA.
WPI; 1996-321945/32.
                     Stacker SA, Wilks AF;
                                                                23-DEC-1994;
23-DEC-1994;
                                                                                                                     04-JUL-1996
                                                                                                                                            WO9620403-A1.
                                                                                                                                                                 Mus musculus.
                                                                                                                                                                                                                                                                11-FEB-1997 (first entry)
                                                                                                 22-DEC-1995;
                                                                                                                                                                                      neuroepithelial tyrosine kinase.
                                          (LUDW-) LUDWIG INST CANCER RES
                                                                94AU-0000301.
94AU-0000300.
                                                                                                 95WO-US16753.
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RESULT
W03038
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Y24316
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Matches 20
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Best Local Similarity
                                                                                                                              Sequence
                                                                                                                                             The present sequence represents factor designated VEGF115.
                                                                                                                                                                             Claim
                                                                                                                                                                                           Vascular endothelial growth factor -
                                                                                                                                                                                                                        WPI; 1999-422621/36.
                                                                                                                                                                                                                                                                                         11-DEC-1997;
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                                                                                                                                                                                                                                                                                                                                                  Mus
                                                                                                                                                                                                                                          (AGEN ) AGENCY OF IND SCI & TECHNOLOGY (TOAG ) TOA GOSEI CHEM IND LTD.
                                                                                                                                                                                                                                                                       11-DEC-1997;
                                                                                                                                                                                                                                                                                                            29-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                   Mouse;
                                                                                                                                                                                                                                                                                                                                                                                 Mouse vascular endothelial growth factor 115.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g. in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                         16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                            Y24316 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                         27
                                                1 APTTEGEQKSHEVIKFMDVY 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a truncated protein. It is a receptor agonist.
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                                       apttegeqkshevikfmdvy
                                                                                                                                                                            ļ.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           apttegeqkshevikfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33;
                                                                                                                                                                                                                                                                                                                                                               vascular endothelial growth factor; VEGF115.
                                                                                       Similarity
                                                                                                                                                                                                                 x88959.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20;
                                                                                                                                                                           Page 8;
                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 52;
                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              133 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                     97JP-0362118.
                                                                                                                                                                        16pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein; 141
                                                                                     92.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92.1%;
100.0%; Pr
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                                                                          Mismatches
                                                                                                                                                   mouse vascular endothelial growth
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                                                                                                                                                                                          and DNA encoding
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                                                                                           Length 141;
                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 133;
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RESULT
W03039
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AC W0
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CKW RC
KW W0
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                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 20
Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour thera wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
                                                                Mutant
                                                                                                                                                                                                                                                                                                                              Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g. in tumour therapy; or the assays can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises a K73S substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                        11-FEB-1997
                                                                                                                  W03039;
                                                                                                                                       W03039 standard; protein; 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-DEC-1994;
23-DEC-1994;
                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 33; Page 49-50; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New receptor protein tyrosine kinase assays -inhibitors or activators which can be used in angiogenesis or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1996-321946/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stacker SA, Wilks AF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-JUL-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activator; vas wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           neuroepithelial tyrosine kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Receptor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mutant vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-FEB-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W03038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W03038 standard.
                                                                                                                                                                                                      27
                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                                                                                                  apttegeqkshevikfmdvy 46
                                                               vascular.
                                                                                                                                                                                                                                                                                                              190 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rotein tyrosine kinase; assay; screening; agonist; vascular permeability; angiogenesis; tumour therapy; ing; vascular endothelial growth factor;
                                                                                                                                                                                                                                                     Conservative
                                                                                     (first entry)
                                                             endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94AU-0000301.
94AU-0000300.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                                                                                                                                                                                                                                              92.1%;
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                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                              Score 105;
Pred. No.
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                                                             factor.
                                                                                                                                                                                                                                                             DB 17;
3e-10;
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Best Local S
Matches 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises an HillG substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                                       Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; angiogenesis; tumour thera wound healing; vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New receptor protein tyrosine kinase assays inhibitors or activators which can be used i angiogenesis or vascular permeability
                                                                                                                       Mus musculus.
                                                                                                                                                                                                                                                                                    W03040 standard; Protein; 190 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-321946/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9620403-A1
           23-DEC-1994;
23-DEC-1994;
                                                                        04-JUL-1996
                                                                                              WO9620403-A1
                                                                                                                                                neuroepithelial
                                                                                                                                                                                                           Mutant vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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23-DEC-1994;
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                                                22-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (LUDW-) LUDWIG INST CANCER RES
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                                                                                                                                                                                                                                                                                                             ഗ
                                                                                                                                                                                                                                                                                                                                                 apttegeqkshevikfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                        APTTEGEOKSHEVIKEMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              190 AA;
                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wilks AF
                                                                                                                                                                                                                                   (first entry)
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94AU-0000300.
          94AU-0000301.
94AU-0000300.
                                                95WO-US16753.
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                                                                                                                                              tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                92.1%; Score 105; DI
100.0%; Pred. No. 3e:
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             DB 17; Length 190; 3e-10;
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l in therapy
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RESULT
W03042
ID W0
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                                                                                                                                                                                                     AX Ad
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to induce vascular permeability or to can be used to induce vascular permeability or to enhance angiogenic activity, e.g., in wound healing. This mutant vascular endothelial growth factor comprises a G117V substitution and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                 LUDW-) LUDWIG
Claim 33; Page 52-53; 78pp; English
                       New receptor protein tyrosine kinase assays - inhibitors or activators which can be used in angiogenesis or vascular permeability
                                                                                                                                                             23-DEC-1994;
23-DEC-1994;
                                                                                                                                                                                                                                                                                                          Receptor protein tyrosine kinase; assay; screening; agonist; activator; vascular permeability; anglogenesis; tumour therapy; wound healing; vascular endothelial growth factor; neuroepithelial tyrosine kinase.
                                                                                                                                                                                                                                                                                                                                                                                                          11-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                   W03042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 33; Page 51; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New receptor protein tyrosine kinase assays - used to identify inhibitors or activators which can be used in therapy involving angiogenesis or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1996-321946/32.
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                                                                                                         Stacker SA,
                                                                                                                                                                                                                                                         WO9620403-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                             W03042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                               WPI;
                                                                                                                                                                                                    22-DEC-1995;
                                                                                                                                                                                                                                                                                  Mus musculus
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                                                                               1996-321945/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             apttegeqkshevikfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; protein; 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                       Wilks AF;
                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                  INST CANCER RES
                                                                                                                                                           94AU-0000300
                                                                                                                                                                         94AU-0000301
                                                                                                                                                                                                    95WO-US16753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92.1%; 5c.
100.0%; Pr
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 17
3e-10;
                                    used to identify
therapy involving
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
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Best Local Similarity 100.
Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see R23347). Clone #14 has a 135 bp deletion and thus encodes a 120 amino acid form and Clone #16 has a
                                                                          Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                 Vascular endothelial cell growth factor II - uartificial blood vessels or to promote tissue
                                                                                                                                                     WPI; 1992-098641/13.
                                                                                                                                                                               Bayne ML,
                                                                                                                                                                                                  (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                            21-SEP-1990;
21-SEP-1990;
                                                                                                                                                                                                                                                              18-SEP-1991;
                                                                                                                                                                                                                                                                                      25-MAR-1992.
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                                                                                                                                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                                                                                                                                               Key
                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rat glioma homodimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alternative form of VEGF mature A-subunit with 120 amino acids.
                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                          polymerase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R22348 standard; Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Receptor protein tyrosine kinase assays can be used to identify inhibitors of receptor tyrosine kinases which can be utilised for inhibiting vascular permeability or for preventing angiogenesis e.g in tumour therapy; or the assays can be used to identify activators of receptor tyrosine kinases which can be used to induce vascular permeability or to enhance angiogenic activity, comprises the following substitutions: K109R, P110S, H111G, Q112D, S113R, Q114P and H115S. It was designated VEGFO and was identified in an assay involving the receptor protein neuroepithelial tyrosine kinase (NYK). It is a receptor agonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R22348;
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                                                                                                                                            Q23039.
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                                                                                                                                                                                                                                                                                                                                                                                                                                       chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell; GS-9L;
mitogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                   27..146
/label= VEGF_A-subunit
/note= "120 amino acids
                                                                                                                                                                                                                          90US-0586640
90US-0586638
                                                                                                                                                                                                                                                           91EP-0308489.
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                                                                                                                                                                                                                                                                                                                                                                /label= signal
                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                             GS-9L; conditioned medium; heterodimer; VEGF-II; enesis; vascular repair; blood vessel implant; reaction; alternative splicing.
                                                                                                                                                                             Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92.18;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                            acids long"
                                                                                                 II – used as
cissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 17;
3e-10;
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                                                                                                            coating
                                                                                                            for
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The full length coding region of the A subunit or monomer of VEGF coligo. Primers hased on the amino acid sequences Degenerate CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and CP CYS-Lys-Asn-Thr-Asp from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide T38 (residues 144-168) were used CP Phe-Met-Asp-Val-Tyr-Gln from polypeptide T38 (residues 144-168) were used CP I stated into pGEM33f(+) and sequenced. The nucleotide sequence CP Primers CP Primers Phe-Met-Asp-Val-Tyr-Gln from Phe-Met-Asp-Val-Tyr-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
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Best Local s
Matches 18
                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                       and growth.
                                                                                                                                                                                                                                                                                                                                                                                                Vascular endothelial cell growth factor sub-units - vascular endothelial cell growth, used for inducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1992-325745/40.
N-PSDB; Q28953.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-MAR-1991;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R27354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R27354 standard; Protein; 146 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72bp insertion and encodes a 188 amino acid mature protein (R22351). The deleted region lies between the second base of the Asn140 codon and the third base of the Arg184 codon. The 120 amino acid mature protein has Asn140 converted to Lys140. See also Q23038-Q23059.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                development; mitogen; blood vessel;
endothejial growth factor; neovascularisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thomas KA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92EP-0302750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      residue subunit.
                                                                                                                                                                                                                                                                                                                                        4; 6lpp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88.6%;
90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 101;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 15,
1.1e-09;
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 factor VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                         which stimulate tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
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Sequence

146

AA;

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4

h factor; A subunit; tissue growth; blood vessel; repair; human.

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RESULT 10
Y57029
ID Y57029
XX
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                                                                                                                Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                             The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, and the deletion of His 141 to Arg 184 from the wild-type given in w53639. The present invention describes: (1) a mammalian VEGF II protein comprising an A subunit from w53639, w53640 or w53641, and a B subunit from w53639, w53639 or the first 115-135 amino acids of w53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer of B subunits. The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                           Claim 1; Page -; 46pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vascular endothelial cell growth factor; VEGF II; rat; glioma mitogenesis; blood vessel growth; artificial blood vessel.
           Y57029 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAR-1998
                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                    B sub-units
                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial growth factor proteins - having specified A and
                                                                                                                                                                                                                                                                                                                                                                                                                            Bayne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5726152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W53640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W53640 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MERI ) MERCK & CO INC.
                                                                    27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 APTTEGEQKSHEVIKEMDVY 20
                                                                                          1 APTTEGEOKSHEVIKEMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                    apttegeqkahevvkfmdvy 46
                                                                                                                                                                                                                                                                                                                                                                                                                            ¥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18;
                                                                                                                  l Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    endothelial growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                            Conn
                                                                                                                                                                           146
                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94US-0299185.
90US-0586638.
93US-0000834.
                                                                                                                                                                           A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94US-0299185
                                                                                                                                                                                                                                                                                                                                                                                                                            GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90.0%;
                                                                                                                            90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                            Thomas
                                                                                                                                                                                                                                                                                                                                           English.
                                                                    46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146
            146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                            KΑ;
                                                                                                               Score 101; DB 19;
Pred. No. 1.1e-09;
2; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 101; DB 13;
Pred. No. 1.1e-09;
2; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                       Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 146;
                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell;
                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                0
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RESULT
R08120
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                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                              This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or EC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                               EP399816-A.
                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Purified and isolated vascular endothelial cell growth factor {\tt C} for the induction of tissue repair or growth -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-NOV-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGF; vascular endothelial growth vascular development; artificial b
           28-NOV-1990.
                                                       Rattus
                                                                              Mitogenesis;
                                                                                                   Mammalian glioma-derived growth
                                                                                                                             24-FEB-1991
                                                                                                                                                                         R08120 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Thomas KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US5994300-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGFA 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-FEB-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y57029;
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                                                                                                                                                                                                                                    27
                                                                                                                                                                                                11
                                                                                                                                                                                                                                              1 APTTEGEOKSHEVIKEMDVY
                                                                                                                                                                                                                                   apttegeqkahevvkfmdvy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000-038268/03.
DB; Z39827:
                                                       rattus.,
                                                                                                                                                                                                                                                                                l Similarity
18; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acid residue subunit sequence
                                                                                                                                                                                                                                                                                                                                           146.AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bayne ML;
                                                                                                                                                                                                                                                                                Conservative
                                                                              wound healing
                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ·91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .93US-0124259
                                                                                                                                                                       protein; 190
                                                                                                                            entry)
                                                                                                                                                                                                                                                                                          90.0%;
                                                                                                                                                                                                                                   46
                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                           Score 101;
Pred. No.
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A

Mismatches

1.1e-09; 21; 0

Length 146; Indels

subunit

0

Gaps

0

factor (GDGF) gene product.

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VEGF-I; mammalian glioma cell; conditioned medium;
homodimer; mitogenesis; VEGF-II; vascular repair;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDGF stimulates mitogenesis and vascular endothelial cell growth, useful in promotigg wound healing or tissue growth. It allows vascular explants to be grown on a GDGF treated surface for implantation in a host. The sequence was isolated from the GS-9L rat cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glioma-derived growth factor - stimulates mitogenesis of mammalian endothelial cells and is used in vitro or in vivo
                                                                                                                                                                                                                                                                                                                Endothelial Growth Factor A-subunit
                                                                                                     /label- T41
/note- "tryptic peptide"
                                                                                                                                   'note= "tryptic peptide"
                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                   'label= N-glycosylation
                                                                                                                                                                                      /label = mature_VEGF_A_monomer
       "tryptic peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 101; DB 11;
Pred. No. 1.5e-09;
2; Mismatches 0;
                                         peptide'
                                                                       peptide'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                             heterodimer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
     CCCXXXX PPXX DXXX
                                                                                                                                                                                                       The VEGF-I A-subunit was found to be identical to the VEGF-II A-subunit. The isolated A-monomer was treated with trypsin, CNBr, Lys C or V8 protease. The peptides resulting from the digestions
                                        Disclosure; Fig 4; 38pp; English.
                                                           Vascular endothelial cell growth factor II - used as coating artificial blood vessels or to promote tissue repair
                                                                                                                               Bayne
                                                                                                                                                                       21-SEP-1990;
21-SEP-1990;
                                                                                                                                                                                                     18-SEP-1991;
                                                                                                                                                 (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                           25-MAR-1992.
                                                                                                                                                                                                                                                EP476983-A.
                                                                                                                                                                                                                                                                                         Peptide
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                                                                                                                                                                                                                                                                                                                                                      Peptide
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                                                                                             1992-098641/13.
DB; Q23038.
                                                                                                                              Ĭ,
                                                                                                                          Conn
                                                                                                                                                                       190us-0586638
                                                                                                                                                                                 90US-0586640
                                                                                                                                                                                                    91EP-0308489
                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "V8 p
                                                                                                                             GL,
                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                      /note= "Leu C
27..43
                                                                                                                                                                                                                                                                              /label= CB18-19
                                                                                                                                                                                                                                                                                                /label= CB26
/note= "Cyanogen
                                                                                                                                                                                                                                                                                                                                                    /note= "Leu
173..190
                                                                                                                                                                                                                                                                                                                                                                                   /note= "]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "tryptic 175..184
                                                                                                                                                                                                                                                                                                                                           /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "V8 Protease
178..190
                                                                                                                                                                                                                                                                                                                                                                            'label=
                                                                                                                                                                                                                                                                                                                                                                                                         ′label=
                                                                                                                                                                                                                                                                                                                                                                                                                            note= "Leu C
                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= L12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= V18B
/note= "V8 Protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= T32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= T22
/note= "tryptic
151..170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    136..150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= V21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= V30
/note= "V8 Protease cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'label= V18A
'note=_"V8 Protease cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note= "V8 Protease cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'label= V40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "V8 Protease cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= V11A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "tryptic peptide"
                                                                                                                                                                                                                                                                                         ..119
                                                                                                                             Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                190
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                                                                                                                                                                                                                                                                                                                                                                                            = L42
Leu
                                                                                                                                                                                                                                                               "Cyanogen
                                                                                                                                                                                                                                                                                                                                           L20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T38
                                                                                                                             KA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protease
                                                                                                                                                                                                                                                                                                                                                               a
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                                                                                                                                                                                                                                                                                                                               cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                            cleavage peptide'
                                                                                                                                                                                                                                                                                                                                                                                          cleavage peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                         cleavage peptide"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide"
                                                                                                                                                                                                                                                                 Bromide cleavage peptide"
                                                                                                                                                                                                                                                                                              Bromide cleavage peptide"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide"
                                                                        for
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Š B

27

1 APTTEGEQKSHEVIKFMDVY 20 apttegeqkahevvkfmdvy

46

Query Match Best Local S Matches 18

ch 88.6%; 1 Similarity 90.0%; 18; Conservative

Sequence

190

AA;

Bayne

Ĭ,

Conn GL,

Thomas

KΑ

CO INC

1990-356428/48

30-MAR-1990; 24-MAY-1989; (MERI) MERCK &

90US-0500421. 89US-0356477. 90EP-0305637.

23-MAY-1990;

mammalian stimulate

growth

Claim 19; Fig 1; 19pp; English.

/label= signal

102

Key Rattus blood

Rat Vascular 29-JUL-1992 R22347;

(first entry)

R22347 standard;

Protein; 190

Ą

Peptide

Peptide Modified-site Protein

'label= T27

Peptide

127..132 /label- T

/label= T18 /note= "tryptic l27..132 note= "tryptic" | 127..135

Peptide

Peptide Peptide

'label= 165

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13;

Length

190;

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                       The full length coding region of the A subunit or monomer of VEGF of setermined from three sets of overlapping CDMA clones. Degenerate oligo. primers based on the amino acid sequences

Phe-Met-Asp-Val-TyY-Gln from polypeptide L42 (residues 42-47) and CCys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the CDNA for VEGF A chain.

A single band migrating at 420 bp was gel purified, digested with Sall, Ijated into pGEM3Zf(+) and sequenced. The nucleotide sequence cotained (p4238) was used to design antisense and sense PCR primers to amplify the 5, and 3, ends of the CDNA. These 5, and 3, clones are denoted p5-15 and pW3, respectively. In addition to the CDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced CDNAs encoding a 146 amino acid secreted CDNAs encoding a 146 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             were isolated and sequenced using the Edman degradation reaction in a gas phase sequenator. In addition to the peptide fragments which were directly sequenced, the full-length protein sequence was deduced from the CDNA encoding it.
                                                                                                                                                                                                                                                                                               Vascular endothelial cell growth factor sub-units - which stimulate vascular endothelial cell growth, used for inducing tissue repair
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                                                                                                                                                                                                                                                        Disclosure;
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                                                                                                                                                                                                                                                                                                                                                                                         Bayne ML, Thomas KA;
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190 AA;
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                                                                                                                                                                                                                                                     Page 28-29; 61pp; English.
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of the two protien subunitis isolated after reduction and carboxymethylation were each applied to polybrene-coated glass fiber filters and their N-terminal sequences were determined. The peak of absorbance eluting at approx 25 ml (A subunit) yielded an amino terminal sequence Ala Pro Thr Glu Gly Glu Gln Lys Ala His Glu Val Val identical to VEGF AA. The peak of absorbance eluting at approx. 3 ml (B subunit) yielded the N-terminal sequence Ala Gly Asn Xaa Ser Thr Glu Met Clu Val Val Pro Phe Asn Glu Val plus a hearly equal amount of a truncated form of the same corresp. to an Asn in the cloned sequence. The Asn and sum of the B chain peptides were recovered in nearly equal amounts supporting the interportation that the two peptides combine to form an AB heterodimer in VEGF II. The form of VEGF AB mature A subunit in the heterodimer is the 154 amino acid form. The form derived from 5 the 158 full length amino acid form.
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CC GS-9L cells were cultured and the VEGF AB subunits were isolated CC and sequenced. The reduced and carboxymethylated protein eluted CC as two peaks at approx. 23 and 25 ml that were of approx. equal CC area as determined by monitoring absorbance at 210 mm. Samples CC of the two protien subunitis isolated after reduction and CC carboxymethylation were each applied to polybrene-coated glass (fiber filters and their N-terminal sequences were determined. CC The peak of absorbance eluting at approx 25 ml (A subunit) yielded CC an amino terminal sequence Ala Pro Thr Glu Gly Glu Glu Lys Ala His CC an amino terminal sequence Ala Pro Thr Glu Beak of absorbance eluting CC at approx. 23 ml (B subunit) yielded the N-terminal sequence Ala CC at approx. 23 ml (B subunit) yielded the N-terminal sequence Ala CC Glu Val Val Gly Asn Xaa Ser Thr Glu Met Glu Val Val Pro Phe Asn CC Glu Val plus a nearly equal amount of a truncated form of the same sequence missing the first three residues. The missing X residue corresp. to an Asn in the cloned sequence. The missing X residue B chain peptides were recovered in nearly equal amounts supporting the interpretation that the two peptides combine to form an AB
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/label= glycosylation site
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Pred. No. 1.5e-09;
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Best Local Similarity
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                                                                                                                                                    heterodimer in VEGF II. The form of VEGF AB mature A subunit in the heterodimer is the 164 amino acid form. The form of VEGF AB mature B subunit in the heterodimer is the 135 amino acid form derived from the 158 full length amino acid form.
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27 apttegeqkahevvkfmdvy 46
                 1 APTTEGEQKSHEVIKFMDVY 20
                                                                                                                          190 AA;
                                                          Conservative
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Pred. No. 1.5e-09;
2; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
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length: 2000000000
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/cgn2_6/ptodata/2/laa/5B_COMB.pep:*
/cgn2_6/ptodata/2/laa/s_COMB.pep:*
/cgn2_6/ptodata/2/laa/sCTUS_COMB.pep:*
/cgn2_6/ptodata/2/laa/backfiles1.pep:*
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US-08-457-299-1
US-08-467-487-1
US-08-464-956-1
US-08-479-733A-30
US-08-807-992B-17
US-08-807-992B-20
US-08-807-992B-20
US-08-482-369A-30
US-08-482-369A-30
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5219739-9
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US-08-807-992B-31
US-08-469-427A-15
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5219739-18
  PCT-US96-09001-10
US-08-327-709-3
US-08-327-709-4
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                   Patent No. 5219739
Patent No. 5332671
Sequence 1, Appli
Sequence 1, Appli
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Sequence 1, Appli
Sequence 30, Appli
Sequence 17, Appli
Sequence 17, Appli
Sequence 20, Appli
Sequence 30, Appli
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Sequence
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Sequence 1
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Patent No. 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15, Appl 5194596 5219739 5332671 5194596 5219739 5194596
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5219739
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US-08-569-063C-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 20, Approx. 5928939
Query Match
                                                                                                                                                                                                               LENGTH:
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65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5
57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
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•	Sequence 3,	٠	Sequence 31	Sequence 31	Sequence 21	Sequence 18	Sequence 14	Sequence 11	Sequence 8,	Sequence 5,	Sequence 2,	Sequence 31	Sequence 4,	Sequence 3,	Sequence 2,	Sequence 2,
5194596	Appli	5240848	, Appl	•	., Appl	•	`	Appl	Appli	Appli	Appli		Appli	Appli	Appli	Appli

ALIGNMENTS

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; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-569-063C-20
                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/569,063C
FILING DATE: 06-DEC-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/469,427
FILING DATE: 06-JUN-1995
PRIOR APPLICATION NUMBER: US 08/397,651
FILING DATE: 06-JUN-1995
PRIOR APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: EVANS, JOSeph D
REFERENCE/DOCKET NUMBER: 1064/41979CP3
REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patent No. 5928939
GENERAL INFORMATION:
                                                                                                                                         TELEFAX: (202) 628-884
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: ERIKSSON, Ulf
APPLICANT: OLLOFSON, Birgitta
APPLICANT: ALTALO, Kari
APPLICANT: PAJUSOLA, Katri
TITLE OF INVENTION: VASCULAR ENDO
TITLE OF INVENTION: DNA CODING TH
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Evenson, McKeown, Edwards & Lenahan, P.L.L.C. STREET: 1200 G Street, N.W., Suite 700 CITY: Washington STATE: DC
                                                                                                                       190 amino acids
                                                                                                                                                                                                   (202) 628-8844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
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Score 105;

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Length 190;

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US-08-469-427A-15
                                                                                                                                                            RESULT
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US-08-807-992B-31
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                                                                                            Patent No. 5607918 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WOrdPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MATCh 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 31, App. Patent No. 60225.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100.0%; Matches 20; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Senger, Dona.
APPLICANT: Dvorak, Haro.
TITLE OF INVENTION: Immu
TITLE OF INVENTION: Spect
TITLE OF INVENTION: Vest
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
                            APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Birgitta
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Katri
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear MOLECULE TYPE: peptide FRAGMENT TYPE: N-terminal
                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27 APTTEGEQKSHEVIKFMDVY 46
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                                                                                                              5, Application US/08469427A 5607918
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSEE: David Prashker, Esq.
T: P.O. Box 5387
Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08807992B
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VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND DNA CODING THEREFOR
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Pred. No. 6.4e-11;
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); Mismatches
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thes 0;
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GROWTH FACTOR

INDUMER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION NUMBER: 387,545

APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO:11:
LENGTH: 21
                                                                                                                                                                                                                                                                                RESULT 4
5194596-11
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
;
                                                                                                                                                       5194596-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-469-427A-15
                                                        Query Match
Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 15: SEQUENCE CHARACTERISTICS: LENGTH: 189 emino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: '01-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Evans, Joseph D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM: PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/469,427A
FILING DATE: '06-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan
STREET: 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1200
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STATE: DC
TD: 20005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27
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STRANDEDNESS: Sin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Evans, Joseph D
REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
APMAEGGQKPHEVVKFMDVY 21
                     APTTEGEQKSHEVIKEMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APTTEGEQKSHEVIKF-DVY 45
                                                                 Conservative
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95.0%;
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                                                                Score 81; DB 5;
Pred. No. 1.4e-07,
1; Mismatches
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Pred. No. 6.1e-08;
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                                                                                                Length 21
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RESULT 7
5194596-21
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532671-14
; Patent No. 5332671
; Patent No. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR AND DNA ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA
; CURRENT APPLICATION DATA
;
        GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
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5332671-14
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; APPLICANT: TIS:
;JOHN C.;MITCHELL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
5219739-11
                                                                                                                                                                    ; Patent No. 5194596
; APPLICANT: TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND FIVE FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
                                                                                                                                C.; MITCHELL, RICHARD L. TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO:14:
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Best Local Similarity 75.0
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/07/389,722 FILING DATE: 04-AUG-1989
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APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                           1 APTTEGEQKSHEVIKFMDVY 20
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                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                  PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                      EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71.1%; Score 81; DB 5; 75.0%; Pred. No. 1.4e-07;
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                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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; FILING DATE: ;SEQ ID NO:21:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES;
JOHN C.;MITCHELL, RICHARD L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5219739-26
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                                                                                                                                                                                                                                                     GROWTH FACTOR
NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                    C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                Patent No. 5194596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO:26:
                               Query Match
Best Local S
Matches 15
                                                                                                                                          SEQ ID NO:9:
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Best Local Similarity 75.08;
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Best Local Simelarity
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APPLICATION NUMBER: US/07/45

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989
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ETLING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
ETLING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
ETLING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                 APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
                               Local Similarity 75.0 res 15; Conservative
                                                                                                                         LENGTH: 120
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1 APTTEGEQKSHEVIKFMDVY 20
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                                              71.18;
75.08;
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75.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 81;
Pred. No.
                                              Score 81;
Pred. No.
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Pred. No. 3e-07;
                                Mismatches
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3e-07;
                                              DB 5;
le-06;
                                                           Length 120;
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APMAEGGQKPHEVVKFMDVY

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RESULT 12

5219739-17

;Patent NO. 5219739

; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
;JOHN C.;MITCHELL, RICHARD L.
;JOHN C.;MITCHELL, RICHARD L.
;JOHN G.;MITCHELL, RICHARD L.
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
;NUMBER OF SEQUENCES: 40
;CURRENT APPLICATION DATA:
;APPLICATION NUMBER: US/07/559,041
;FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GROWTH FACTOR

INDUSTRIAL PRODUCTION OF VASCULATION OF SEQUENCES: 32

CURRENT APPLICATION UNBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO:17:
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5194596-17
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PATENT NO. 5219739

PATENT NO. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HUMAN HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121 CURBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN; C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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5219739-9
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/07/55:
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
EILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                              LENGTH: 164
                                                                                                                                                                                                                                                                                                                                                                                                              1 APTTEGEQKSHEVIKFMDVY 20
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Similarity 75.0%; Pred. No. 1.5e-00
15; Conservative 1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 164;
                                                                                                                     AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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RESULT 14
5332671-3
5332671-3
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
FILING DATE: 14-DEC-1989
FILING DATE: 27-JUL-1989
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5219739-18
                                                                                                                                                                         APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
                               SEQ ID NO:3:
                                                                                                                                                                                                                                                    ;Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;Patent No. 5219739
; APPLICANT: TISCHER, ED
;JOHN C.;MITCHELL, RICHARD
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FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-UUL-1989
SEQ ID NO:17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO:18:
                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/38
FILING DATE: (04-AUG-1989)
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
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Best Local S
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              LENGTH: 190
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15; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                               71.18;
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75.0%;
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                                                                                                                                           US/07/389,722
                                                                                                                                                                                                                                                                                                                                                                                                                 Score 81; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
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Pred. No. 1.5e-06;
                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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Matches Query Match Best Local S

15;

Conservative

Similarity

71.1%;
75.0%;

Score 81; DB 5; Le Pred. No. 1.7e-06;

Length 190;

Indels

0

Gaps

0;

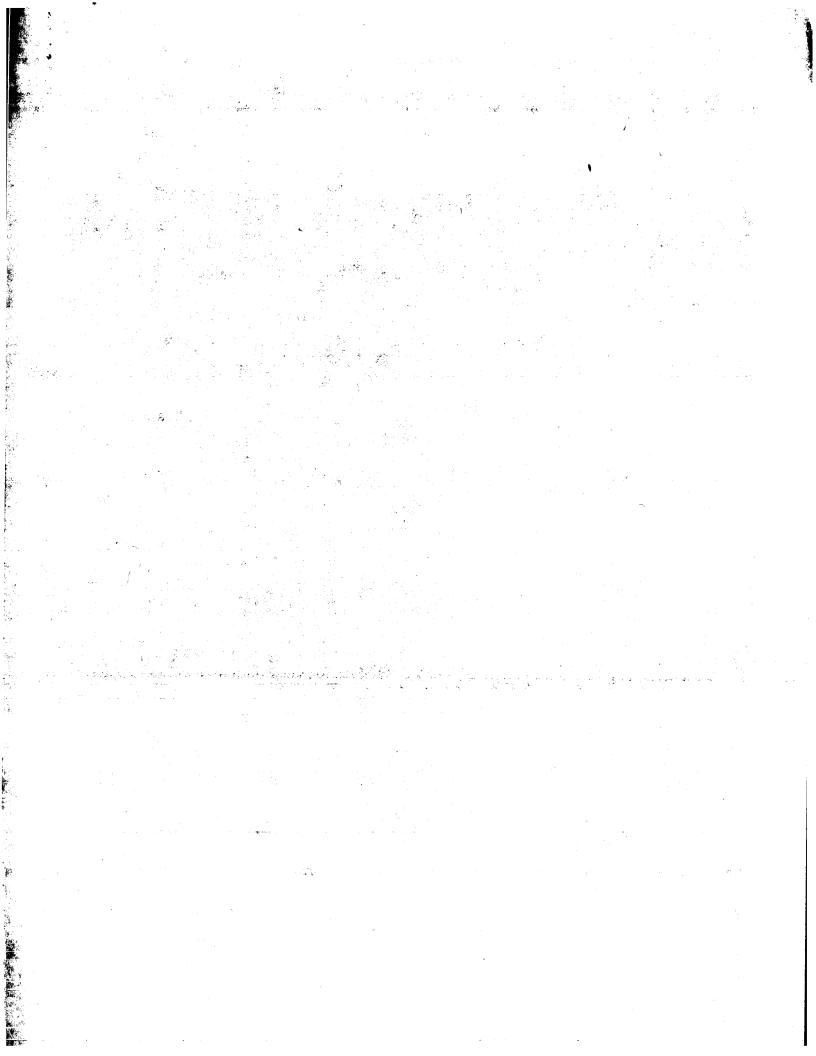
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TELEPHONE: (617) 542-5070

TELEFAX: (617) 542-8906

TELEX: 200154

INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 25
TYPE: amino acid
TOPOLOGY: linear
US-08-327-709-1
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US-08-327-709-1
Search completed: November 9, 2000, 15:33:02 Job time: 243 sec
                                                                                                                                                     Qγ
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MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: IBM P.C. DOS (Version 3.30)
SOFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/327,709
FILING DATE: CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/779,384
FILING DATE: October 18, 1991
ATTORNEY/AGENT INFORMATION:
NAME: CLASK, Paul T.
REGISTRATION NUMBER: 01948/024001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-8906
TELEFAX: 200154
                                                                                                                                                                                                  Query Match 70.2%; Score 80; DB 1; Length 25; Best Local Similarity 75.0%; Pred. No. 2.5e-07; Matches 15; Conservative 1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/08327709
Patent No. 5659013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Donald R. Senger and Harold F.
APPLICANT: Dvorak
TITLE OF INVENTION: VASCULAR PERMEABILITY FACTOR
TITLE OF INVENTION: TARGETED COMPOUNDS
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 225 F
CITY: Boston
STATE: Massac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A. ZIP: 02110-2804
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27 APMAEGGQKPHEVVKFMDVY 46
                                                                                                           1 APTTEGEQKSHEVIKFMDVY 20
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1 APMAEGEQKPREVVKFMDVY 20
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on:
     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
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   length: 0
length: 2000000000
     Issued_Patents_AA:*
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Gapop 10.0 ,
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Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/ECTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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 Gapext 0.5
                US-08-807-992B-9
US-08-327-709-2
US-08-464-956-2
US-08-807-992B-15
US-08-807-992B-26
5240848-11
US-08-807-992B-3
5219739-22
5240848-7
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US-08-569-063C-20

US-08-784-551C-20

US-08-784-551C-21

US-08-08-469-427A-14

US-08-039-297B-2

US-08-569-063C-21
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US-08-807-992B-2
US-08-691-794-2
5332671-4
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   PCT-US96-09001-10
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Compugen Ltd
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                Sequence 2, Appli
Sequence 6, Appli
Sequence 15, Appli
Sequence 15, Appli
Sequence 26, Appli
Sequence 27, Appli
Sequence 3, Sequence 3, Appli
Sequence 3, Sequence
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Sequence 2, Appli
Sequence 14, Appl
Sequence 2, Appli
Sequence 21, Appli
Sequence 21, Appli
Sequence 21, Appli
Patent No. 5194596
Patent No. 1
Patent No. 1
Sequence 1
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Patent No. 5194596
Patent No. 5219739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
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Patent No. 5219739
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5219739-20
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5194596-19
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                                                                   SEQ ID NO:20:
LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID
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Best Local S
Matches 17
 Query Match
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45	44	43	42	41	40	39	38	37	36	3 5	34	33	32	31	30	29
53	53	53	56	57	58	58	60	62	66	66	66	66	67	67	67	67
44.2	44.2	44.2	46.7	47.5	48.3	48.3	50.0	51.7	55.0	55.0	55.0	55.0	55.8	55.8	55.8	55.8
207	207	12	12	170	12	12	. 18	14	190	164	164	164	232	232	232	232
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US-08-569-063C-15	US-08-609-443B-15	US-08-742-243-67	US-08-742-243-65	US-08-039-297B-8	US-08-742-243-66	US-08-742-243-3	US-08-807-992B-19	US-08-807-992B-12	5332671-3	5219739-18	5219739-17	5194596-17	US-09-042-105-7	US-08-807-992B-4	US-08-824-996-9	US-08-999-811-7
Sequence 15, Appl	Sequence 15, Appl	Sequence 67, Appl		Sequence 8, Appli	Sequence 66, Appl	Sequence 3, Appli	Sequence 19, Appl		Patent No. 5332671	Patent No. 5219739	Patent No. 5219739	Patent No. 5194596	Sequence 7, Appli	Sequence 4, Appli	Sequence 9, Appli	Sequence 7, Appli

ALIGNMENTS

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PATENT NO. 5219739

PATENT TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYBEF 121 AND METHODS FOR THE PRODUCTION OF BOYINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYBER NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-UTL-1990

PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GROWTH FACTOR

HOWER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Patent No. 5194596; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JO;
;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
APPLICATION NUMBER: 189
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
EQ ID NO:19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CECRPKKDRTKPEKCDKPRR 20
||||||||| : ||||||||
102 CECRPKKDRARQEKCDKPRR 121
                                                                                                                                                         APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 86.7%;
1 Similarity 85.0%;
17; Conservative
86.78;
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Pred. No. 1.7e-07;
1; Mismatches 2;
Score 104;
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DB
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Length 121;
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GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
                                                                                                                       ;Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOHN
;C.;MITCHELL, RICHARD L.
;ITILE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-807-992B-1
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                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: MARCH 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/08807992B Patent No. 6022541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                      128 CECRPKKDRARQEKCDKPRR 147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM FO, OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Magnolia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
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                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Donald R
Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85.0%; Pred. No. 1.7e-07; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                   86.7%; Score 104;
85.0%; Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MS DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
                                                               US/07/450,883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vessel
                                                                                                                                                                                                                                                                                                                                                                         DB 3;
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                                                                                                                                                                                                                                                                                                                                                                    Length 147;
                                                                                                                                                                                                                                                                                                                                   Indels
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5219739-9
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TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No. 5219739;
APPLICANT: TISCHER,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; FILING DATE: 27-JUL-1989; SEQ ID NO:9:
                                                                                                                                                                                                                                                                                                                                                                                             Sequence 15, Application US/08469427A Patent No. 5607918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Erikss
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/55
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450, 883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                       APPLICANT: PSYUSOIA, KATLI
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DNA CODING THEREFOR
NUMBER OF SEQUENCES: 17
                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101 CECRPKKDKAKOEKCDKPRR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                   STREET: 1200 G S1
CITY: Washington
                  APPLICATION NUMBER: FILING DATE: 06-JUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101 CECRPKKDKARQEKCDKPRR 120
CLASSIFICATION:
                                                                                                                                                                                                   ADDRESSEE: Evenson, McKeown, STREET: 1200 G Street, N.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CECRPKKDRTKPEKCDKPRR 20
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les 16; Conserv
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                                                                                                                                                                                                                                                                                                                       Alitalo, Kari
                                                                                                                                                                                                                                                                                                                                     Eriksson, Ulf
Olofsson, Birgitta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                  06-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EDMUND G.; ABRAHAM, JUDITH A.; FIDDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84.2%;
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                              US/08/469,427A
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Pred. No. 4.4e-07;
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                                                                                                                                                                                                     Edwards & Suite 700
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Matches

PRIOR APPLICATION DATA:

APPLICATION NUMBER

US 08/397,651

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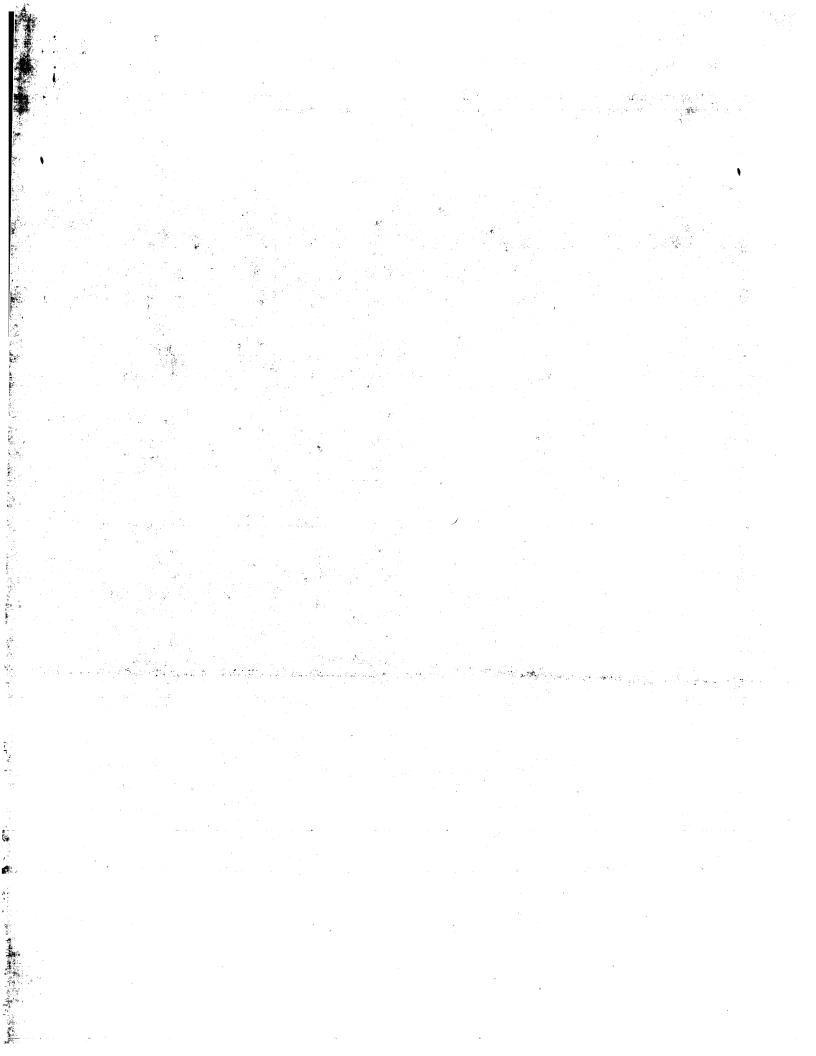
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; TOPOLOGY: 11;; MOLECULE TYPE: US-08-469-427A-15
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (202) 628-88 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tent No.
                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
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                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                            PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       186 KPRR 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126 CECRPKKDRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD 185
ELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 189 amino acids
TYPE: amino acid
STRANDEDNESS: single
                              NAME: EVANS, Joseph D
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Evans, Joseph D
REGISTRATION NUMBER: 26,
REFERENCE/DOCKET NUMBER:
             REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 1064/41979CP3
                                                                                                                                    APPLICATION NUMBER: US 08/469,427 FILING DATE: 06-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                         CITY: Washington
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RNEY/AGENT INFORMATION:
                                                                                                                                                                                                 LING DATE:
                                                                                                                                                                                                                CATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/08569063C
                                                                                                                                                                                                                                                                                                                                                                                                            E: Evenson, McKeown, Edwards & Lenahan, P.L.L.C. 1200 G Street, N.W., Suite 700
                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAJUSOLA,
                                                                                                                                                                                                                                                PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALITALO, Kari
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29.7%;
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    Mismatches

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Pred. No. 9.4e-05;
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                                        INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LONO:
LYPE: amino acids
STRANDEDNESS: Sir
TOPOLOGY:
CLECULP
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                                                                                                                                                                                                                                        FILING DATE: January 21, 1997 CLASSIFICATION: 514 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                  COMPUTER: IBM COMPAtible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSED for Windows 2.0
CURRENT AMPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: :3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
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                                                                                                                                 TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17 KPRR 20
                                                                                                                                                  NAME: Cohen, Herbert REGISTRATION NUMBER: 25,109 REFERENCE/DOCKET NUMBER: 02
                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: Januar
                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
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                                                                                                                    ELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                20006
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                                                                                                                                                                                                                                                                                                                                                                                                                                             N/A
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                                        145 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                             IBM Compatible
linear
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            single
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29.7%;
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Pred. No. 9.
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Search completed: November Job time: 242 sec
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US-08-807-992B-2
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                                                                                                                                                                                                               Query Match 57.5%;
Best Local Similarity 25.0%;
Matches 16; Conservative
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Best Local Similarity 25.0
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (978) 525-3
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 equence 2, Application US/08807992B atent No. 6022541 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                      188 KPRR 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION:
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                                                                                                             17 KPRR 20
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                                                                                                                                                                                                                                                                                                                              LENGTH: 191 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/807,992B FILING DATE: March 3, 1997 CLASSIFICATION: 424
                                                                                                                                                                                1 CECRPKKDRTKPE-----
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Magnolia Massachusetts
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Dvorak,
                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Donald R
Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blood
        9, 2000, 15:33:01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vessel
                                                                                                                                                                                                                           Score 69; DB 3; Pred. No. 0.013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 69; DB 3; Length 191; Pred. No. 0.013;
                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                        ......KCD 16
                                                                                                                                                                                                         2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2; Indels 44; Gaps
                                                                                                                                                                                                                                           Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------KCD 16
                                                                                                                                                                                                        44; Gaps
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Title:
Perfect score:
                                                                                                                                                                                                                                                                     Result
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                   Score
120
120
120
120
120
104
104
104
104
104
104
                                                                                                                                                                                                                                                                                                                                                                                                              A_Geneseq_36:*

1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*

3: /SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT:*

4: /SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*

5: /SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*

6: /SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*

7: /SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*

9: /SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*

9: /SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*

10: /SIDS1/gcgdata/geneseq/geneseqp/AA1990.DAT:*

11: /SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:*

12: /SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:*

13: /SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:*

14: /SIDS1/gcgdata/geneseq/geneseqp/AA1993.DAT:*

15: /SIDS1/gcgdata/geneseq/geneseqp/AA1994.DAT:*

16: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*

17: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*

18: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

19: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

19: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

20: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

20: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

21: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*

22: /SIDS1/gcgdata/geneseq/geneseqp/AA1999.DAT:*
100.0
100.0
100.0
100.0
86.7
86.7
86.7
86.7
86.7
86.7
                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                       Query
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     November 9, 2000, 15:30:38;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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                                                                                                                                                                                                                                                   Length
                                      146
146
146
121
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146
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                      119
121
120
200
200
116
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                                                                          R27354
W53640
Y57029
R11385
R42607
Y23943
Y08278
                                      Y33438
R91075
                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search time 94.87 Seconds (without alignments) 7.209 Million cell updates/sec
                Amino acid sequenc
Human growth facto
Parapox virus VEGF
Human vascular end
VEGF121 Homo sap
                                                                                                          Alternative form o
Sequence of vascul
Vascular endotheli
VEGFA 146 amino ac
Human vascular end
Human VEGF-121 H
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acid sequenc
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555555	85 70.8 85 70.8 85 70.8 85 70.8 85 70.8 85 70.8	71 00 00 00 00 00 00 00 00 00 00 00 00 00	888888888 5555555555555555555555555555
13 13 19 19	190 11 R08 190 13 R27 190 13 R27 190 13 R27 190 13 R27 190 19 W5 190 19 W5 190 19 W5 190 190 190 190 190 190 190 190 190 190	17 17 17 12 14 20 20	21 21 21 17 17 17 17
223028 77355 73641 77030 77030	R08120 R22347 R27350 R27351 R27351 R27352 W53643 W53643 W53643 W53643	0588 4073 4073 0594 0916 0916 77724 3487	Y90402 Y89412 Y894033 R94031 R94032 R94071 W00586 W00589
vascular Alternati Sequence Vascular VEGFA 214 Vascular	la la la	SAP-ALAMet-VEG SAP-ALAMet-VEG SAP(GLY4Ser)YE SAP(GLY4Ser)YE BOVINE VASCULA BOVINE VEGF-12 Human VEGF pro Parapox Virus Amino acid seq	VEGF encode Amino acid Human vascu VEGF121 Cys VEGF121 Cys SAP-AlaMet- SAP(G1y4Ser SAP-AlaMet- SAP-AlaMet-
tive form o tive form o of vascul r endotheli amino ac r endotheli	4	-AlaMet-VEGF121 -AlaMet-VEGF121 (Gly4Ser)VEGF12 (Gly4Ser) YEGF1 (ne vascular en ine VEGF-120. an VEGF protein apox virus VEGF protein apox cid sequenc	iF encoded by cl no acid sequenc lan vascular end FF121 Cys+4. Ho FF121 Cys+2. Ho -AlaMet-VEGF121 '(Gly4Ser) VEGF12 '(Gly4Ser) VEGF12

ALIGNMENTS

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21-SEP-1990;
21-SEP-1990;
Bayne ML, Conn GL,
                                                                                                                                                                                                               Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II;
homodimer; mitojenesis; vascular repair; blood vessel implant;
                                                                                                                                                                                                                                             Alternative
                  (MERI ) MERCK & CO INC.
                                                               18-SEP-1991;
                                                                                 25-MAR-1992.
                                                                                                   EP476983-A.
                                                                                                                                       Protein
                                                                                                                                                         Peptide
                                                                                                                                                                   Key
                                                                                                                                                                                    Rattus.
                                                                                                                                                                                                      polymerase chain reaction; alternative splicing
                                                                                                                                                                                                                                                            29-JUL-1992 (first entry)
                                                                                                                                                                                                                                                                                                  R22348 standard; Protein; 146 AA.
                                                                                                                                                                                                                                            form of VEGF mature A-subunit with 120 amino acids.
                                  90US-0586640
90US-0586638
                                                               91EP-0308489
                                                                                                                                       1..26
/label= signal
27..146
                                                                                                                     /label= VEGF_A-subunit
/note= "120 amino acids long"
                                                                                                                                                                Location/Qualifiers
Thomas KA;
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RESULT
R27354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 20
The full length coding region of the A subunit or monomer is determined from three sets of overlapping cDNA clones. oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-
                                                                                                 Vascular endothelial cell vascular endothelial cell
                                                                Disclosure; Fig
                                                                                                                                    N-PSDB; Q28953
                                                                                                                                                                     Bayne ML, Thomas KA;
                                                                                                                                                                                                                  28-MAR-1991;
                                                                                                                                                                                           (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                       27-MAR-1992;
                                                                                                                                                                                                                                                                30-SEP-1991.
                                                                                                                                                                                                                                                                                      EP506477-A.
                                                                                                                                                                                                                                                                                                              Rattus
                                                                                                                                                                                                                                                                                                                            Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascu
                                                                                                                                                                                                                                                                                                                                                           Sequence of vascular endothelial cell growth factor VEGF 146\, amino acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid secreted form of VEGF A-subunit (see R2347). Clone #14 has a 135 bp 72bp insertion and thus encodes a 120 amino acid form and Clone #16 has a 71be deleted region lies between the second base of the Asn140 codon protein has Asn140 converted to Lys140.
                                                                                                                                                                                                                                                                                                                                                                                                     25-FEB-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                            R27354 standard; Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1992-098641/13, N-PSDB; Q23039.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ш
                                                                                                                                              1992-325745/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cecrpkkdrtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 100.
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                9108-0676436
                                                               4; 61pp;
                                                                                                                                                                                                                                      92EP-0302750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                               English
                                                                                         growth factor sub-units - which stimulate growth, used for inducing tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 120; DB 13;
Pred. No. 4.4e-09;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                            neovascularisation
 (residues 42-47) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     coating
                       of VEGF
Degenerate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 20
        The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, w53639. The present invention describes: (1) a mammalian vEGF II protein from W53639 or the first 115-135 amino acids of W53638; and (2) a mammalian vEGF II protein from W53638, w53639 or the first 115-135 amino acids of W53638; and (2) The growth factor is used for promoting vascular development and repair and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                           31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                        Claim 1; Page -;
                                                                                                                                                                                                                          Vascular endothelial growth factor
                                                                                                                                                                                                                                                          WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                  Bayne ML, Conn
                                                                                                                                                                                                                                                                                                                                                                                                   31-AUG-1994;
                                                                                                                                                                                                                                                                                                              (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAR-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vascular endothelial cell growth factor; VEGF II; rmitogenesis; blood vessel growth; artificial blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                        US5726152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JUL-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VEGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pGEM32f(+) and sequenced. The nucleotide sequence cotannel (p4238) was used to design antisense and sense PCR primers to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones are denoted p5-15 and pw3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid and a 214 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W53640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W53640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cecrpkkdrtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard; Protein; 146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity
20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                          9308-0000834
                                                                                                                                                                                                                                                                                                                                                         94US-0299185
90US-0586638
                                                                                                                                                                                                                                                                                   GL,
                                                                                                                                                                                                                                                                                                                                                                                               94US-0299185
                                                                                                                                                                                     46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                     proteins - having specified A and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120; DB 13;
No. 4.4e-09;
smatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rat; glioma
d vessel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Sequence

146 AA;

... ...

Length

146;

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RESULT
R11385
ID R1
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Y57029
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 20
                                                                                                                              Matches
                                                                                                                                                                                                              This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VEGF; vascular endothelial growth factor; A subunit; tissue growth; vascular development; artificial blood vessel; repair; human.
                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Fig 3;
                                                                                                                                                                                                                                                                                                                                                                                                   Purified and isolated vascular endothelial cell growth factor C subunit for the induction of tissue repair or growth - \!\!\!\!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGFA 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-FEB-2000
            R11385 standard; Protein; 121
                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Y57029 standard; Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
                                                                                                                                         Local Similarity,
                                                                                         1 CECRPKKDRIKPEKCDKPRR 20
                                       G
                                                                           cecrpkkdrtkpekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-038268/03.
                                                                                                                              20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
                                                                                                                                                                                            146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bayne ML;
                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91US-0676436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93US-0124259
                                                                                                                                                                                                                                                                                                                                                                        58pp; English.
                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     residue subunit sequence.
                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                          Score 120; DB 21;
pred. No. 4.4e-09;
" wismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 120; DB 19;
Pred. No. 4.4e-09;
; Mismatches 0;
                                                                                                                                                    Length 146;
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                                                                                                                              Indels
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BXAXBX
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R42607
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                                                                                                                                                                                                                                                                                                                                                                                           PXPXPR
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                                                                                                                                                                                                                                                                                                                                                                                                                   The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In partic. Average splicing, have different properties. In partic. In Partic. The protein free to bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas hBEGF165 binds heparin strongly. The product can be used for angiogenesis and re-endothelialisation of inner vascular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic ulcers, burns, in surgery, in balloon angioplasty and for the in vitro culturing of endothelial cells. Hybrid growth factors of PDGF and VEGF can exhibit a mitogenic profile between each factor and can be used for wound healing or as inhibitors of angiogenesis for e.g. preventing the growth of tumours.

VEGF analogues in which CYS residues are substd. are more stable. See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding vascular endothelial cell growth factor - used for producing the factor for anglogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tischer ER, Abrhamam,
Angiogenesis; wound healing; mitogen; vascular endothelial cells; Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                      R42607;
                                                                                                                                              R42607 standard; Protein; 121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1991-073534/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-DEC-1989;
27-JUL-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-JUL-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bovine vascular endothelial cell growth factor; angiogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human vascular endothelial cell growth factor 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-MAY-1991 (first entry)
                                                   Human VEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              wound healing; hVEGF; PDGF.
                                                                                                                                                                                                                                       102 cecrpkkdrarqekcdkprr 121
                                                                                                                                                                                                                                                                                                      Local Similarity
les 17; Conserv
                                                                                                                                                                                                                                                        1 CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                     σ
                                                                                                                                                                                                                                                                                                                                                                                         121 AA;
                                                                                                                                                                                                                                                                                                        Conservative
                                                                                  (first
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89US-0387545
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                                                                                  entry)
                                                                                                                                                                                                                                                                                                                  86.7%;
85.0%;
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                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                      Score 104; DB 12;
Pred. No. 4.8e-07;
1; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                      Length 121;
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RESULT
Y23943
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Best Local :
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       06-JUL-1999.
                                                                                   Amino acid sequence
                                                                                                         21-SEP-1999
                                                                                                                            Y23943;
                                                                                                                                                                                                                                                                                                              The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF-165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences can be generated using PCR with human foetal vascular smooth muscle
                                              Homo sapiens
                                                               Vascular endothelial growth
                                                                                                                                              Y23943 standard; peptide; 121
                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                           poly-A+ RNA as template.
                                                                                                                                                                                                                                                                                                                                                                                     Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                               Isolated DNA sequences, expression vectors and transformant cells - used for large scale prodn. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                            102 cecrpkkdrarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-JUL-1990;
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14-DEC-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SCIO-) SCIOS NOVA INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUN-1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
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Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                          1 CECRPKKDRTKPEKCDKPRR
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89US-0450883.
90US-0559041.
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115
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Lys 115 of hVEGF-121 amino acids encoded h
                                                                                of vascular endothelial growth factor (VEGF) 121.
                                                                                                       entry)
                                                                                                                                                                                                                                               86.7%;
85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "inserted amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 spliced exon in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mitchell RL,
                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                   Score 104; DB Pred. No. 4.8e 1; Mismatches
                                                                 factor;
                                                               VEGF; VEGF 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tischer
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..8e-07;
les 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      relative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        is replaced by 44
by an alternatively
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                                                                                                                                                                                                                                                       Length 121;
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                                                             monoclonal antibody.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R38921)
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RESULT
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Best Local s
Matches 17
   This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor protein fragments used in the method of the invention.
                                                                                              Claim 14; Page 7; 14pp; German.
                                                                                                                       Preparing active growth
                                                                                                                                                       WPI; 1999-278785/24
                                                                                                                                                                            Erdmann
                                                                                                                                                                                                                         05-NOV-1997;
                                                                                                                                                                                                                                               05-NOV-1997;
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                                                                                                                                                                                                                                                                                           DE19748734-A1
                                                                                                                                                                                                                                                                                                                                                Growth factor; human;
                                                                                                                                                                                                                                                                                                                                                                     Human growth factor protein
                                                                                                                                                                                                   (GBFB ) GES
                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                      pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                             14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                     Y08278;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Y08278 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121 present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New VEGF121-specific levels of VEGF121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102 cecrpkkdrarqekcdkprr
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                                                                                                                                                                                                                                                                                                                                                                                          entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        monoclonal antibody
                                                                                                                                                                                                                                                                                                                                                dimer;
                                                                                                                                                                           Mueller C,
                                                                                                                              factor dimers
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                                                                                                                                                                                                                                                                                                                                                                    fragment VEGF-A121.
                                                                                                                                                                                                                                                                                                                                            cysteine knot; céllular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 104;
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                                                                                                                            from inclusion bodies in high
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2;
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                                                                                                                                                                          Weich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 121;
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RESULT
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Best Local S
Matches 17
                                                                                                     Matches
                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                    This invention describes a novel polypeptide that is a parapox virus homolog of human vascular endothelial growth factor (PPV-VEGF) and stimulates endothelial cell proliferation. The products of the invention have angiogenic activity. The polypeptide can be used in pharmaceutical compositions for therapeutic or diagnostic use, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation, e.g. by angiogenesis or tissue repair or for immunomodulation, e.g. by differentiation. Nucleic acids encoding the polypeptide can be used in the polypep
                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homolog of human vascular endothelial growth factor useful for stimulating endothelial cell proliferation, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis; endothelial cell proliferation; gene therapy; diagnostic; tissue repair; immunomodulation; dendritic cell differentiation; DNA vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                              pharmaceutical compositions for DNA vaccination or gene therapy. This sequence represents a protein fragment of a parapox virus D1701 vascular endothelial growth factor (VEGF) homologue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-552202/47
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Parapoxvirus.
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  127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102 cecrpkkdrarqekcdkprr 121
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nes 17; Conserv
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                                                  1 CECRPKKDRTKPEKCDKPRR 20
cecrpkkdrarqekcdkprr 146
                                                                                                l Similarity
17; Conserv
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                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16pp;
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                                                                                                                           85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                German.
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Pred. No. 4.8e-07;
1; Mismatches 2;
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Pred. No. 5.7e-07;
                                                                                                     Mismatches
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                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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RESULT

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V
                                                                                                                                                     CC R91075-R91078 are human vascular endothelial growth factors (VEGFS).

CC DNA encoding a VEGF can be used to create a fusion protein (FP),

CC the cDNA of which includes a nucleic acid binding domain (NABD) and

CC encodes a heparin binding growth factor, HepGF (e.g. VEGF, FGF, HBEGF),

CC a protein synthesis inhibitor and opt. a linker imparting flexibility

CC to the FP. The FP can be used to target a protein synthesis inhibitor;

CC an antisense DNA sequence or an inhibitor of elongation factor 2, to a

CC cell carrying a HepGF receptor. The conjugates of the invention are

CC cused to inhibit cell proliferation in cells carrying the particular

CC growth factor receptor. A specific application is to prevent

CC excessive proliferation of epithelial cells, fibroblasts and

CC excessive proliferation of epithelial cells, fibroblasts and

CC excimer laser treatment other conditions which may be treated include

CC trabeculectomy after glaucoma surgery and corneal clouding after

CC excimer laser treatment other conditions which may be treated include

CC complications, Kaposi's sarcoma and rheumatoid arthritis.
                                                            Query Match
Best Local S
                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New conjugates of growth factor receptor ligand and targetted agent - partic. DNA or cytotoxin, used to control cell proliferation in the eye, e.g. to prevent growth of pterygii and corneal clouding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation; cell proliferation; psoriasis; pterygia; corneal clouding; cancer; rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R91075 standard; Protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Baird JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-MAR-1994;
15-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human vascular endothelial growth factor-121,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-MAY-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R91075;
                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Pagʻe 184-185; 204pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1995-336820/43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W09524928-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         heparin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (PRIZ-) PRIZM PHARM INC
1 CECRPKKDRTKPEKCDKPRR 20
                                               1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Houston LL,
                                                                                                                            147 AA;
                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              //label= sig_peptide
  27..147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94US-0213447
94US-0213446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95WO-US03448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= VEGF-121
                                                              86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nova MP,
                                               Score 104; DB 16;
Pred. No. 5.7e-07;
1; Mismatches 2;
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                                                                             Length 147;
                                                 0
                                                 Gaps
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R94001
                                                                                                                                                    CC R94001-R94004, R94031, R94032, R94039 and R94040 represent vascular conditions and provided and represents vEGF121. These sequences were used in VEGF conjugates of the invention. In the conjugates, VEGF (or fragments of it) are linked to a targeted agent (this can be via a linker sequence), so that the conjugate binds to a VEGF receptor. Cys-modified forms of VEGF are particularly suitable for chemical conjugation to linkers and targeted agents. The conjugates are used for inhibiting proliferation of cells bearing VEGF receptors. They can be used for treating a VEGF-mediated pathophysiological condition, including dermatological disorders with underlying vascular proliferation, solid tumours or an ophthalmic disorder of hyperproliferating blood vessels of the retina, iris, conjunctiva or vitreous humour. The conjugates can also be used for treating psoriasis, rheumatoid arthritis, skin cancers and other tumours, or varicose veins.
                                                                          Query Match
Best Local
                                                          Matches
                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                  Vascular endothelial cell growth factor (VEGF) conjugates - having VEGF linked to targeted agent, used for inhibiting proliferation of
                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 122-123; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1996-160151/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathbophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fleurbaaij GA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Victor KD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (PRIZ-) PRIZM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-MAY-1995;
29-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-MAR-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9606641-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R94001 standard; Protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       varicose veins;
                                                                       Local
                 1 CECRPKKDRTKPEKCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11
cecrpkkdrarqekcdkprr 147
                                                       1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                             e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T17613
                                                                                                                                  147
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95US-0441979.
94US-0297961.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95WO-US10973.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Freund
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                     86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ħ
                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Houston
                                                       1;
                                                    Score 104; DB Pred. No. 5.7e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LL,
                                                                  DB 17;
5.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nova MP,
                                                      'n
                                                                                  Length 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sosnowski BA;
                                                    0;
                                                 Gaps
                                                   0;
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RESULT W62524

12

VEGF encoded by clone VEGF121,

SEQ ID NO:1.

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RESULT
Y90402
                                                                                                                                                                                                                                                                                         XXXXXXX
                                                                                                                                                                 В
                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                          The present sequence represents human vascular endothelial growth f 121 (VEGF-121). VEGF stimulates production of nitric oxide and prostacyclin. VEGF can therefore be used for treatment or preventio of intimal hyperplasia in a blood vessel. VEGF can be used for treatment or preventing any condition responsive to in vivo stimulation of nitric acid and prostacyclin (especially essential hypertension, pulmonary arterial hypertension (PAH), cor pulmonale and atherosclerosis. VEGF is specifically used to control (re)stenosis, where caused by PAH or by a surgical procedure such as angioplasty, coronary bypass operation, anastomosis or endarteriectomy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-AUG-1997;
01-NOV-1996;
09-MAY-1997;
                                  18-JUL-2000 (first entry)
                                                                                         y90402 standard; Protein; 147
                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 8; Page 54; 70pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Treatment or prevention of intimal hyperplasia by stimulating production of nitric oxide - by administration of vascular endothelial growth factor, useful for, e.g. treating or preventions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; vascular endothelial growth factor; VEGF; production; nitric oxide; prostacyclin; treatment; prevention; intimal hyperplasia blood vessel; essential hypertension; pulmonary arterial hypertension; PAH; cor pulmonale; atherosclerosis; (re)stenosis; angioplasty; coronary bypass operation; anastomosis; endarteriectomy.
                                                                                                                                                                 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             intimal hyperplasia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Barker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (EURO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-MAY-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9820027-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W62524;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Amino acid sequence of human VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W62524 standard: Protein; 147
                                                                                                                      13
                                                                                                                                                                                        1 CECRPKKDRTKPEKCDKPRR 20
                                                                                                                                                              cecrpkkdrarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1998-286857/25
                                                                                                                                                                                                                     l Similarity
17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SGE, Martin JF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EUROGENE LID
                                                                                                                                                                                                                                                                                         147 ÅA;
                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97GB-0017791.
96GB-0022852.
97GB-0009494.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97WO-GB03015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   endothelial
                                                                                                                                                                                                                               86.7%;
85.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yla-Herttuala
                                                                                                                                                                                                                               Score 104; DB 19;
Pred. No. 5.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   growth factor; VEGF;
                                                                                           AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                            Length 147;
                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or preventing
                                                                                                                                                                                                                                                                                                                                                                                                          prevention
                                                                                                                                                                                                                                                                                                                                                                                                                         growth factor and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hyperplasia;
                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                             treating
                                                                                                                                                                                                               Gaps
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compliferating cells. The gene delivery composition comprises a protein chat binds the fibroblast growth factor receptor (FGFR) which is fused or chemically conjugated to a nucleic acid binding domain. The nucleic acid binding domain is complexed with a suitable expression construct encoding a cytotoxin such as saporin. One or more linkers may join the complexed to increase the specificity, toxicity, solubility, serum construct encoding a cytotoxin such as saporin. One or more linkers may join the condensation of nucleic acids for delivery, solubility, serum construct encoded for intracellular availability, and may serve to promote condensation of nucleic acids for delivery to a cell. The fusion protein condensation to FGFR and is internalised by cells that carry this receptor. The function, gene expression and viability of cells. In particular, it may be used for the treatment and prevention of cell proliferative disorders, for example after eye surgery, melanoma and many other sorts of cancer. Crimumatold arthritis, restenosis, Dupuytren's contracture, diabetic retinopathy, psoriasis and eczema. The gene delivery compositions of the invention have high specificity for particular cells and can deliver are mounts of DNA compared to prior art methods. Sequences Al2853-CAl2855 represent cDNA clones encoding vascular endothelial growth factor (HBEGF) procusor, and y90406-y90409 represent CC HBEGF proteins. Al2857 represents cDNA encoding human heparin-binding conferences and represent cDNA correctors and represent cDNA correctors.
                                                                                                                                                                                Query Match
Best Local
                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Targetted gene delivery; fibroblast growth factor receptor; FGFR-binding protein; nucleic acid binding protein; receptor-internalised ligand; cytotoxin; saporin; gene therapy; cytocide; antiproliferative; cancer; melanoma; diabetic retinopathy; rheumatoid arthritis; restenosis, Dupuytren's contracture; psoriasis; eczema; heaprin-binding epidermal growth factor; HBEGF; vascular endothelial growth factor; VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gene delivery system, useful for treating or preventing cancer and rheumatoid arthritis, comprises receptor-internalized ligand linked nucleic acid binding domain and nucleic acid .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Columns 83-84; 131pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-292008/25.
N-PSDB; A12853.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chandler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-MAR-2000
                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel gene delivery composition for targetted delivery of cytotoxins or prodrug-converting enzymes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-AUG-1994;
13-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (SELE-) SELECTIVE GENETICS INC
                                                                                                                                                                                                                                                                                                                                                                                       HBEGF precusor and mature proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .5-MAR-1994;
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       128
                                                                     CECRPKKDRTKPEKCDKPRR 20
cecrpkkdrarqekcdkprr 147
                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۶
                                                                                                                                                                                                                                                                                                                            147 AA;
                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94US-0213446.
94US-0213447.
94US-0297961.
94US-0305771.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95US-0441979.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96US-0718904.
                                                                                                                                                                            86.7%;
                                                                                                                                                                         Score 104; DB 21;
Pred. No. 5.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baird JA;
                                                                                                                                               Mismatches
                                                                                                                                               2
                                                                                                                                                                                                          Length 147;
                                                                                                                                               0,
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Query Match Best Local Similarity

85 86

.7%;

Score Pred.

No. 5.7e-07;

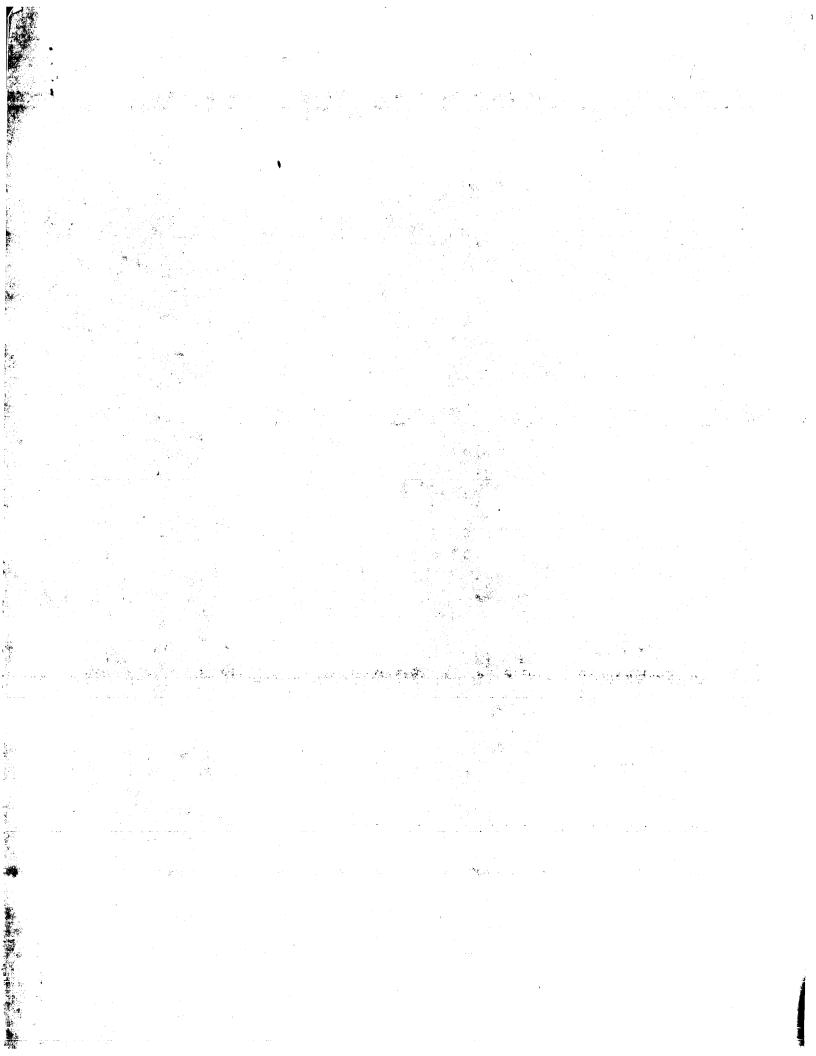
Length 147;

Sequence

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RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-SEP-1998;
26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; renom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsla; sepsis; pancreatis; intravascular coagulation; thrombotic thrombotytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                  syndrome...toxic shock syndrome, venom exposure, chemical exposure, hypercoagulable, states, platelet activation or aggregation, thrombosis, preclampsia, thrombosis thrombosytopenia purpura, disseminated intravascular coagulation, sepsis, pancreatis, acute renal failure, myocardial infarction, ischemic bowel disease, transient ischemic attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung endothelium injury, acute respiratory distress syndrome, toxic alveolar injury, pneumonia, pulmonary emboll, birth prematurity disorders, wounds, allergic reactions, hypersensitivity, autoimune diseases, organ transplants, focal glomerulosclerosis, and amyloidosis.
                                                                                                                                                                                                                                                                                                         The present sequence represents native human vascular endothelial growth factor (VEGF) 121. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated nonvascular tissues (served by the blood vessels) and for the prevention and repair of vascular injury associated with microvascular angiopathy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and interstitium. Conditions which may be treated include haemolytic uremic
                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 3; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schreiner GF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y69412 standard; Protein; 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Amino acid sequence of vascular endothelial growth factor 121.
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99US-0126406.
'99US-0126615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Johnson
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RESULT TO SOLUTION OF THE CASE OF THE CASE
Administering vascular endothelial growth factor (VGEF) can be used CC Administration of VGEF promotes angiogenesis and/or vascular or CC capillary permeability. The method is also useful in treating CC capillary permeability. The method is also useful in treating CC disease associated with impaired filtration or prevention of kidney CC disease associated with impaired filtration or excretion of kidney CC associated with alterations, and bone growth disorders; treatment or prevention of hypoxia or hypercaphia or fibrosis arising from CC distress syndrome, toxic alveolar injury, pneumonia, infections, and bone growth disorders; treatment or prevention of filed secretions in the lungs, e.g. acute respiratory CC surgical intervention, cystic fibrosis; treatment or prevention of pulmonary dysfunction arising from injury, pneumonia, infections, CC surgical intervention, cystic fibrosis; treatment or prevention of pulmonary dysfunction arising from injury to the pulmonary pulmonary dysfunction arising from injury to the pulmonary completed transport of fluid and solutes across the intestinal CC prevention of ascites accumulation in the peritoneum; enhancement of cefficacy of solute flux; preservation or enhancement of function of CC efficacy of solute flux; preservation or enhancement of function of CC efficacy of solute flux; preservation or enhancement of function of CC endothelium. The activity of VGEF is mediated by interaction CC endothelium. VGEF exists as five different length monomer chains due
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel methods for treating hypertension by administering a factor which increases anglogenesis and/or vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; Z93345
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2000-256862/22
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99US-0126406.
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Search completed:
Job time: 103 sec
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                                                                                                            Query Match 86.7
Best Local Similarity 85.0
Matches 17; Conservative
                                                                                                                                                                                                  to alternative splicing of the VGEF RNA transcript unique among the five forms in that it does not bind molecules associated with the extracellular matrix.
                                                                                                                                                                               Sequence
                                                           128 cecrpkkdrangekcdkprr 147
                                                                         1 CECRPKKDRTKPEKCDKPRR
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           November
                                                                                                                          85.7%;
         9, 2000, 15:30:38
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                                                                                                                         Score 104; DB 21;
Pred. No. 5.7e-07;
                                                                                                              Mismatches
                                                                                                                                     Length 147;
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to heparin
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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                      Score
   protein search, using sw model
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
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length: 2000000000
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Match
  164575 seqs, 16761186 residues
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Gapop 10.0 , Gapext 0.5
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78
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Copyright (c) 1993 - 2000 Com
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5CTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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  US-08-742-243-70

US-08-391-615-5

US-08-807-992B-7

US-08-807-992B-13

US-08-807-992B-16

US-08-807-992B-30
                                                                US-08-567-200A-2
US-08-807-992B-2
US-08-691-794-2
5332671-4
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5219739-20
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US-08-569-063C-20
5332671-3
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5219739-18
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3.422 Million cell updates/sec
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Sequence 70, Appl Sequence 7, Appli Sequence 13, Appl Sequence 13, Appl Sequence 30, Appl Sequence 30, Appl Sequence 10, 5194596 Patent No. 5194596 Patent No. 5194596 Patent No. 5194596 Patent No. 5219739 Sequence 20, Appl Sequence 20, Appl Sequence 2, Appli Sequence 3, Appli Patent No. 5240848 Sequence 3, Appli Patent No. 5240848 Sequence 10, Appli Patent No. 5240848
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Patent No. 5219739
Sequence 1, Appli
                                                                                                                                                                                                                                                                                                                                                                     Description
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5194596
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; UNMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
;SEQ ID NO:19:
                                                                                                                                                                                                                                                                  RESULT 2
5219739-20
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5194596-19
                                       5219739-20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;Patent No. 5194596; Patent No. 5194596; Patent No. 5194596; ApplICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES, JOI;C.;MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL;
                                                   SEQ ID NO:20:
LENGTH:
 Query Match
                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local (
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37	37	37	37	37	37	37	37	39	39	39	39	39	39	39	39	39
47.4	47.4		47.4	47.4	47.4	47.4	47.4	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
3666	1162	768	153	153	145	22	6	2813	2813	559	559	559	232	232	232	232
ν	N	N	N	Н	w	Н	w	ω	w	4	ω	\vdash	ω	ω	Ŋ	N
US-08-222-617A-12	US-08-728-323A-2	US-08-222-617A-5	US-08-469-658-55	US-08-469-486-55	US-08-784-551C-2	US-07-664-989B-33	US-08-807-992B-10	US-09-132-652-2	US-08-896-449A-2	PCT-US94-04496-31	US-08-545-860D-31	US-08-320-559-31	US-09-042-105-7	US-08-807-992B-4	US-08-824-996-9	US-08-999-811-7
Sequence 12, Appl	Sequence 2, Appli	Sequence 5, Appli	Sequence 55, Appl	Sequence 55, Appl	Sequence 2, Appli		Sequence 10, Appl	Sequence 2, Appli	Sequence 2, Appli	Sequence 31, Appl	Sequence 31, Appl	Sequence 31, Appl	Sequence 7, Appli		Sequence 9, Appli	Sequence 7, Appli

ALIGNMENTS

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PATENT NO. 5219739

PATENT NO. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:

APPLICATION NJMBER: US/07/559,041

FILING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:
                                                                                                                                    APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
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milarity 75.0%;
Conservative
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Pred. No. 0.
  Score 53;
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                                                                                                                                                                                                                                                                                                                                             BVEGF120 AND HVEGF121
  DB 5;
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Length 121;
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5194596-9
;Patent No. 5194596
;Patent No. 5194596
;Co.;MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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US-08-807-992B-1
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US-08-807-992B-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (978) 525-3794 INFORMATION FOR SEQ ID NO: 1:
                                                     NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
                                                                                                                                                                                                                                                                                               136 RARQEKCDKPRR 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   110 RARQEKCDKPRR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                               RTKPEKCDKPRR 13
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602;
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                                                                                                                                                                                                                                                                                                                                                                 Conservative
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, Harold F
                                                                                                                                                                                                                                                                                                                                                                                  67.98;
75.08;
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0.29;
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                                                                                                          APPLICANT: Yukita; Ayako
APPLICANT: Yukita; Ayako
APPLICANT: Hanatani, Mitsuya
APPLICANT: Hanatani, Mitsuya
APPLICANT: Hanataninoto, Tomoe
APPLICANT: Okamoto, Masaji
APPLICANT: Okamoto, Masaji
APPLICANT: Okamoto, Masaji
APPLICANT: Suzuki, Hideo
TITLE OF INVENTION: Peptides And Monoclonal Antibodies
FILE REFERENCE: 07898/005001
CURRENT APPLICATION NUMBER: US/08/742,243A
CURRENT FILING DATE: 1996-10-31
EARLIER APPLICATION NUMBER: 308184/1995
EARLIER APPLICATION NUMBER: 308184/1995
IEARLIER APPLICATION NUMBER: 308184/1995
SAFTWARE: Patentir Ver. 2.0
SOFTWARE: Patentir Ver. 2.0
SOFTWARE: Patentir Ver. 2.0
; OTHER INFORMATION: Description of Artificial Sequence: synthesized; OTHER INFORMATION: peptide fragment US-08-742-243-70
                                                                                                                                                                                                                                                                                                                                                                                                           US-08-742-243-70
; Sequence 70, Application US/08742243A
; Patent No. 6024955
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TIPLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HYEGF 121 AND METHOUS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
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APPLICANT:
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Best Local Similarity
Matches 11; Conserv
                                                                                           LENGTH: 12
TYPE: PRT
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Best Local Similarity
Matches 11; Conserv
                                                                  ORGANISM: Artificial Sequence
                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/C
FILING DATE: 27-JUL-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          103 CRPKKDKARQEKCDKPRR 120
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FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.0%;
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61.1%;
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Pred. No. 0.4;
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Query Match

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RESULT ,
US-08-391-615-5
Gordence 5, Ar
RESULT 9
US-08-807-992B-7
Sequence 7, Application US/08807992B
Patent No. 6022541
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                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299 FHT UR
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 51.:
Best Local Similarity 75.0
Matches 6; Conservative
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                                                                                                                                                                                  Query Match
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APPLICANT: Witte, Owen
APPLICANT: Staffran, Douglas
APPLICANT: Saffran, Douglas
APPLICANT: Rawlings, David
                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMEER: US 08/006
FILING DATE: 21-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: ROWLAND, BETTAM I
REGISTRATION NUMBER: 20,015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/391,615
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CORRESPONDENCE ADDRESS:
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                                                                                          301 CRLKSSPCDRP 311
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STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                       1 CRTKPEKCDKP 11
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6; Conserv
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75.0%;
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                                                                                                                                                                  Score 40; DB 1; Pred. No. 84;
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er, Suite 3400
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Best Local Similarity
Matches 6; Conser
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APPLICANT: Senger,
APPLICANT: Dvorak,
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                                                                                                                                                                                                                                     TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                        STREET: F.C.
STREET: Magnolia
CITY: Magnolia
cTATE: Massachusetts
TSA
                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOSTWARE: WordPerfect CURRENT APPLICATION DATA:
                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: David Pra
                                                                                                                                                                                                                                                                                                     APPLICANT: Senger, Donald R APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BI
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                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          13 RCDKPRR 19
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                                                                                                                                                                  P.O. Box 5387
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                                                                                                                                                                                  David Prashker,
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                                                                                                                                                                                                                                   Immunological preparation for concurrent specific binding to spatially exposed regions of vascular permeability factor bound in-vivo to a tumor associated blo vessel
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85.7%;
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3, 1997
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                   version
                                                                3.50 inch, 1.40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 39; DB
Pred. No. 4.9;
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Query Match
Best Local Similarity
Thes 6; Conserve
                                                                                        US-08-807-992B-16
                                                                                                       NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-807-992B-16
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Best Local Similarity 8
"atches 6; Conservat!
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Patent No. 6
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SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                              COMPUTER: IBM PS/1

OPERATING SYSTEM: MS DOS

SOFTWARE: WordPerfect version 5.1

CURRENT APPLICATION DATA: PAPLICATION NUMBER: US/08/807,992E

FILING DATE: MATCH 3, 1997

CLASSIFICATION: 424
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TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 3: CORRESPONDENCE ADDRESS: David Pra-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: BISTALECOMMUNICATION INFORMATION: TELEPHONE: (978) 525-3794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13 RCDKPRR 19
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           Conservative
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                                                                                                    linear
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                       50.0%;
85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vessel
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85.7%;
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                      Score 39; DB 3; Pred. No. 4.9;
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Pred. No.
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         Mismatches
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                                 Length 19;
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Patent No. 5194596

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN; C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
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                                                                                                                                                                             RESULT 12
5194596-17
                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
"--ches 6; Conserv
                                                      GROWTH FACTOR SEQUENCES: 32 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                            US-08-807-992B-30
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US-08-807-992B-30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 anino acids
TYPE: amino acid
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Patent No. 6
           APPLICATION NUMBER: US/
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
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NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
FRAGMENT TYPE:
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TITLE OF INVENTION: 5
TITLE OF INVENTION: 7
TITLE OF INVENTION: 7
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WORDPERFECT VERSION CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/807,
FILING DATE: MATCH 3, 1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Diskette,
APPLICATION NUMBER: 387,545
                                                                                                                                                                                                                                    13 RCDKPRR 19
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                                                                                                                                                                                                                                                              7 KCDKPRR 13
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TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE:
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CITY: Magnolia
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                                                                                                                                                                                                                                                                                              Conservative
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Dvorak,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
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internal
                                                                                                                                                                                                                                                                                                                                                                                                                                  single
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D NO: 30:
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85.7%;
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Harold F
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5219739-18
; Patent No. 5219739
; APPLICANT: TISCHER,
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5219739-17
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5219739-17
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5194596-17
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                                                                                                                              5219739-18
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FILING DATE: 14-DEC-189
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; FILING DATE: 27-JUL-1989; SEQ ID NO:17:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.;ABRAHAM, JUDITH A.;FIDDES,
; JOHN C.;MITCHELL, RICHARD L.
;JOHN C.;MITCHELL, RICHARD L.
;PARSCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                              APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:18:
LENGTH: 164
                                                                                                                                                                                                                                                                                                                               JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BYEGF120 AND HUMAN; HYEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BYEGF120 AND HYEGF121 NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 50.0
Best Local Similarity 85.7
Matches 6; Conservative
                                  Query Match 50.0%;
Best Local Similarity 85.7%;
Matches 6; Conservative
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Best Local Similarity
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/(FILING DATE: 27-JUL-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
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 7 KCDKPRR 13
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85.7%;
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85.7%;
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Pred. No. 36;
1; Mismatches
                                  Score 39; DB 5;
Pred. No. 36;
1; Mismatches

    Mismatches

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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO:18:
LENGTH: 165
                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
5194596-18.
5194596-18.
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
Search completed: November Job time: 242 sec
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Best Local S
Matches 6
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                                                                                     159 RCDKPRR 165'
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                                                                                                                        7 KCDKPRR 13 .
                                                                                                                                                          Conservative
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                9, 2000, 15:33:01
                                                                                                                                                         Score 39; DB 5;
Pred. No. 36;
1; Mismatches
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq length: 0 seq length: 2000000000
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Match
   100.0
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hits satisfying chosen parameters:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SNNYNTYRSRKYSSWYVALKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
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5514566-6
US-08-100-744-4
US-08-284-784-4
US-08-854-811-4
PCT-US90-06592-1
US-08-231-894A-13
US-08-231-894A-13
US-08-231-894A-14
US-08-231-894A-15
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US-07-830-330-8

US-08-187-780-3

US-08-478-485-3

5464943-26
US-08-441-629-8
US-08-776-207-8
PCT-US95-09172-8
US-08-325-186-2
                                                                            5464943-8
5464943-10
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5464943-14
5175147-6
5175147-8
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                                                          Sequence 4, Appli
Sequence 4, Appli
Sequence 1, Appli
Sequence 11, Appli
Sequence 11, Appli
Sequence 13, Appl
Sequence 14, Appl
Sequence 15, Appl
Sequence 49, Appl
Sequence 49, Appl
Patent No. 5464943
Patent No. 5175147
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Patent No. 5514566
Sequence 4, Appli
Sequence 4, Appli
Sequence 1, Appli
Sequence 1, Appli
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Sequence 8, Appli
Sequence 3, Appli
Sequence 3, Appli
Patent No. 5464943
Sequence 8, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 2, Appli
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ALIGNMENTS	5514566-8	us-09-103-079-10	US-08-951-822-28	US-08-438-439C-14	US-08-867-471-10	US-08-462-169B-10	US-08-325-632-1	US-08-439-725A-10	US-08-177-502-4	US-08-177-502-2	US-07-842-177A-1	US-08-023-757-4	US-08-023-757-2	US-07-959-369-6	PCT-US91-02186-6	US-08-325-186-1	US-08-438-439C-24
	Patent No. 5514566		Sequence 28, Appl	14,		10	Sequence 1, Appli	Sequence 10, Appl	Sequence 4, Appli	Sequence 2, Appli	1,	Sequence 4, Appli	Sequence 2, Appli	Sequence 6, Appli	Sequence 6, Appli	Sequence 1, Appli	Sequence 24, Appi

RESULT 1 US-07-830-330-9

Sequence 9,

9, Application US/07830330 5. 5288704

GENERAL INFORMATION:

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; LENGTH: 24 anino acids; TYPE: AMINO ACID; TYPE: AMINO ACID; TOPOLOGY: linear; MOLECULE TYPE: peptide; FRAGMENT TYPE: internal US-07-830-330-9
                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-230-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEPAX: (703)486-2347
TELEEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
  Query Match
Best Local Sim
Matches 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
.SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/830,330
FILING DATE: 19920420
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ungheri, Domenico
APPLICANT: Garcíano, Luisa
APPLICANT: Battistini, Carlo
APPLICANT: Battistini, Carlo
APPLICANT: Carninati, Paolo
APPLICANT: Mazue, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
TITLE OF INVENTION: FOR USE AS ANTIVIRAL AGENT
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSE: OBLON,
ADDRESSE: P.C.
STREET: 1755 Jeff
CITY: Arlington
STATE: Virginia
ZIP: 22202
                        Similarity
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    Conservative
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100.0%; Score 115; DB 1; 100.0%; Pred. No. 1.9e-10 tive 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                   769-230-0
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                                           Length 24;
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                                                                                                                                                                   RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNET/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION UNMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-230-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEFAX: (703)486-2347
TELEY 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 mulno actds
TYPEP: AMTNO ACTD
                                                                                     Sequence 3, Application US/08187780 Patent No. 5459250 GENERAL INFORMATION:
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US-07-830-330-8
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Best Local S
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APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALII
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/830,330
FILING DATE: 1930420
CLASSIFICATION: 424
CCLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Mazue, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
TITLE OF INVENTION: FOR USE AS ANTIVIRAL AGENT
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: V11
STATE: 22202
                                                                                                                                                                                                                                                                                  Watch 100.0%; Local Similarity 100.0%; Local Similarity 100.0%; nes 21; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor
CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SNNYNTYRSRKYSSWYVALKR
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                                                                                                                                                                                                                                                                                                                                                                                                                                               AMINO ACID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Application US/07830330
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Battistini, Carlo
Carminati, Paolo
                                                                                                                                                                                                                                                                                                                                                                                                                              linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT
                                   MAMMALIAN GROWTH FACTOR
                                                                                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                                                                                               Score 115; DB 1;
Pred. No. 2.3e-10;
                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                             Length 28;
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                                                                                            Matches
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US-08-187-780-3
                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 07/806,71
APPLICATION NUMBER: 07/87,506
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/17,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: April 4, 1987
APPLICATION NUMBER: 07/062,925
FILING DATE: THORMATION:
APPLICATION NUMBER: 32,613
APPLICATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US3
FILICOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
TELEPHONE: (212) 753-6237
                                                                                                                                                                                                                                                                                                                                                                 IDENTIFICATION METHOD:
OTHER INFORMATION: This
OTHER INFORMATION: COI
OTHER INFORMATION: gro-
OTHER INFORMATION: pag.
OTHER INFORMATION: pag.
OTHER INFORMATION: app.
PUBLICATION INFORMATION:
AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO:
100 SNNYNTYRSRKYSSWYVALKR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/187,780 FILING DATE: January 25, 1994 CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 incl
MEDIUM TYPE: J860 Kb storage
COMPUTER: IBM OF IBM-compatible
OPERATING SYSTEM: PC/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                           ISSUE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                              FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID
                                                                                                                                                                                                                                                                                                                                    TITLE:
JOURNAL:
                       1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                        DATE:
DOCUMENT NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Darby
STREET: 805 Third
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                      VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/901, 107
FILING DATE: June 22, 1992
FILING DATE: 07/866,771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U
                                                                       Conservative
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5 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein
                                                                100.0%; Score 115; DB 1; 100.0%; Pred. NO. 1.2e-09; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                        This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.25 inch,
                                                                                                                                                                                  NO:
                                                                                                   Length 145;
                                                                0;
                                                              Gaps
                                                              0;
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US-08-478-485-3

Sequence 3, Applicati Patent No. 5883071 GENERAL INFORMATION:

Application US/08478485

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PRIOR APPLICATION DATA
APPLICATION NUMBER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/17,506
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/17,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/62,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: JOSEPH R. RODINSON
REGISTRATION NUMBER: 33,448
REGISTRATION NUMBER: 3986/13:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (212) 527-77
TELEPAX: (211) 753-6237
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
TENGTH: 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Wordperfect CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy Diskette,
MEDIUM TYPE: 1.44 MB storage
                                                                                                                                                                                                                                                    OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: CLAUDIO BASILICO APPLICANT: DANIELA TALARICO TITLE OF INVENTION: MAMMALII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC/MS-DOS SOFTWARE: Wordperfect 5.1
                                                                                                                                                                      TITLE:
JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: Concurrently Herewith CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/478,485
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                                                                                                                                                                                                                                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DESCRIPTION:
                   FILING DATE:
PUBLICATION DATE:
                                                              DOCUMENT NUMBER:
                                                                                                                              ISSUE:
                                                                                                                                                                                                                AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                 IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New York
: New York
RY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10022
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805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
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                                                                                                                                                                                                                                                                        This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5986/13586-US6
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RESULT 5
5464943-26
5464943-26
; Patent NO 5464943
; APPLICANT: SENOO, MASAHARU; SASADA, REIKO; IGARASHI, KOICHI
; TITLE OF INVENTION: DNA ENCODING GLYCOSYLATED FGF AND
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Best Local Similarity
Matches 21; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: California Biotechnology Inc.
APPLICANT: Inventors: Thompson, Stewart A.
         APPLICATION NUMBER: PCT/US91/
FILING DATE: 19910702
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MUTAShige, Kate H.
REGISTRATION: NUMBER: 29,959
REGISTRATION: NUMBER: 29,959
                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/275,635
FILING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Irell & Manella
                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: High Level Expression of TITLE OF INVENTION: Fibroblast Growth Factor TITLE OF INVENTION: N-terminus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
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Local Similarity 100.0%;
hes 21; Conservative 0
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                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 146
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REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                                                                                 T: 545 Middlefield Road, Suite 200
Menlo Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application PC/TUS9102186
                                                                                                                                                                                                                                                                                California
                                                                                                                                                                                                                                                                                                                                                                                                                                               Abraham, Judith A.
                                                                                                                                                                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                                                                                                              Fibroblast Growth Factor Having a Homogeneous
                                                                                                              PCT/US91/02186
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Pred. No. 1.2e-09;
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RESULT 7

5514566-6
; Patent No. 5514566
; APPLICANT: FIDDES, JOHN C.; ABRAHAM, JUDITH A.
TITLE OF INVENTION: METHODS OF PRODUCING RECOMBINANT; FIBROBLASTS GROWTH FACTORS.
; NUMBER OF SEQUENCES: 21
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                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/08100744
Patent No. 5563046
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Best Local
                                                 MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                APPLICANT: CARRILLO, PEDRO A.
TITLE OF INVENTION: POLYPEPTIDE FUSIONS
TITLE OF INVENTION: INTERLEUKIN-1-LIKE F
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 415-327-7250
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/417,022
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                109
                                                                                                                 ADDRESSEE: MORRISON & FOERSTER
STREET: 755 Page Mill Road
CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 SNNYNTYRSRKYSSWYVALKR 21
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109 SNNYNTYRSRKYSSWYVALKR 129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 155 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 809,163
FILING DATE: 16-DEC-1985
APPLICATION NUMBER: 775,521
FILING DATE: 12-SEP-1985
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nes 21; Conservative
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                                                                                    RY: USA
94304-1018
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OLSON, PAMELA
OLSEN, DAVID
                                                                                                                                                                                                                                                                                                              MASCARENHAS, DESMOND
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Pred. No. 1
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Version #1.25
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RESULT 9
US-08-284-784-4
                             TELEFAX: (415) 494-0/92
TELEX: 706141
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
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Patent No. 5629172
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                                                                                                                                                                                                                                                 COUNTRY: USA:
ZIP: 94304-1618
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEN PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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SEQUENCE CHARACTERISTICS:
LENGTH: 132 unino acids
                                                                                                                         TELEPHONE: (415) 813-5600
                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: PARK, FREDDIE K.
REGISTRATION NUMBER: 35,6
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: EXPRESSION OF
TITLE OF INVENTION: TRANSPORTED OU
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                               APPLICATION NUMBER: US/0
FILING DATE: 02-AUG-1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
TYPE: amino acid
STRANDEDNESS; sir
TOPOLOGY: linear
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FILING DATE: 1.02-AUG-1993
CLASSIFICATION: 435
ATTORNEY/AGENT ENFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:

""""" NÜMBER: US/08/100,744
                                                                                                                                                                                                                                                                                                                                                                                     STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
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STRANDEDNESS: sir
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REFERENCE/DOCKET NUMBER: 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/08284784
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OLSON, PAMELA S.
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             single
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95.2%;
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                                                                                                                                                                  35,636
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                                                                                                                                                     22095-20275.20
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Pred. No. 2.9e-09;
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                                                                                                                                          TOPOLOGY:
US-08-854-811-4
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Best Local Similarity
Matches 20; Conserv
                                                                          Query Match
Best Local Similarity
                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/08854811 Patent No. 5914254
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                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 22
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-813-5600
                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 08/284,784
FILING DATE: 02-AUG-1994
APPLICATION NUMBER: 08/100,744
FILING DATE: 02-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0
FILING DATE: 12-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Olsen, David R.
APPLICANT: Cohen, Pedro A.
TITLE OF INVENTION: EXPRESS
TITLE OF INVENTION: TRANSP
TITLE OF INVENTION: SEQUEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: /J
                                                                                                                                                                                                                                           TELEFAX: 55.
TELEFAX: 706141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 SNNYNTYRSRKYSSWYVALKR 21
|||||||||||||1|||
86 SNNYNTYRSRKYTSWYVALKR 106
                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: sir
86 SNNYNTYRSRKYTSWYVALKR 106
                                                                                                                                                                                                                                                                                                                              NAME: Buffinger, Nicholas S
REGISTRATION NUMBER: 39,124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: Windows
SOFTWARE: FastSEQ for Windows Version 2.0b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                       SNNYNTYRSRKYSSWYVALKR 21
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                                                                                                                                                                                                                                                                    650-494-0792
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                                                             Conservative
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                                                                                                                                                          linear
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                                                                          97.4%;
95.2%;
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95.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EXPRESSION OF FUSION POLYPEPTIDES TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/854,811
                                                                                                                                                                                                                                      4:
                                                                                                                                                                                                                                                                                                                    22095-20275.21
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                                                           Score 112; DB 2;
Pred. No. 2.9e-09;
1; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 112; DB 1;
Pred. No. 2.9e-09;
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                                                              0
                                                                                            Length 132;
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                                                              Indels
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                                                             0;
                                                           Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application PC/TUS9006962
GENERAL INFORMATION:
APPLICANT: Baird, J. A.
APPLICANT: Hajjar, David P.
                                                                                                                                                                                                                                                                   Sequence 11, Application US/08231894A Patent No. 5851990, GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
ZIP: 02109
COMPUTER READBLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compati
OPERATING SYSTEM: DOS
                                                                                                APPLICANT: FUJISHAMA, GAPPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BYGE MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSHMAN
STREET: 130 WATER STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: Au 186/C1 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/443,939
FILING DATE: 30-NOV-1989
ATTORNEY/AGENT INFORMATION:
NAME: Schumann, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 50
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619)552-1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 1. Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Treatment of HSV NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                          111 SNNYNTYRSRKYTSWYVALKR 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                COUNTRY: US
                                                                                              STATE: MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                         1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 19901:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                    US :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (619)552-0095
TD NO: 1:
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 IBM Compatible YSTEM: DOS
                                 Diskette
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95.28;
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Pred. No. 3.1e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4; Length 140
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Best Local Similarity 95.2
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 13, Application US/08231894A
Patent No. 5851990
                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                   08-231-894A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                             SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-WAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: APPLICATION:
                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: 1
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                     APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUGUDA, TSUNCHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
TELEPAX: (617) 523-6440
                                                                                                      COMPUTER: IBM COMPUTER: OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100 SNNYNTYRSRKYTSWYVALKR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
 APPLICATION NUMBER:
                                   CLASSIFICATION:
                                                                                                                                                  MEDIUM TYPE:
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APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
GIAGGETTATION APPR-1992
                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POPOLOGY:
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                                                                                                                                                                                     02109
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                                                                                                                                                                                                                 MASSACHUSETTS
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RESNICK, DAVID S.
ATTMBER: 34235
                                                                                                                                                                                                                                               E: & CUSHMAN
130 WATER STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              146 amino acids
                                                                                                                              IBM Compatible
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                                                                                                                                                   Diskette
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95.2%; Pred. No. 3
US 07/873907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/08/231,894A
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RESULT 14
US-08-231-894A-14
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                                                                                                 SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 4176
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 14, Application US/08231894A Patent No. 5851990
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Best Local :
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APPLICANT: FUJISHIMA, AKIRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
             APPLICATION NUMBER: JP 09
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
                                                                   CLASSIFICATION: 435
PRIOR APPLICATION, DATA:
                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSEMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                       COMPUTER: IBM ... DOS
OPERATING SYSTEM: DOS
OPERATING SYSTEM: DATA:
OPERATING DATA:
OPERATION DATA:
OPERATION DATA:
OPERATION DATA:
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APPLICATION NUMBER: JP 066381-1992
FILING DATE: '24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 09
FILING DATE: '26-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 SNNYNTYRSRKYTSWYVALKR 120
   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                               COUNTRY: UZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 146 umino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 24-APR-1992
CLASSIFICATION: 435
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RESNICK, DAVID S.
34235
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                                                   JP 097655-1991
JP 066381-1992
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Gaps

FILING DATE: 24-MAR-1992 ATTORNEY/AGENT INFORMATION:

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RESULT 15
US-08-231-894A-15
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; ORIGINAL SOURCE:
US-08-231-894A-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 15, Application US/08231894A Patent No. 5851990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 97.4%; Score 112; DB 2; Best Local Similarity 95.2%; Pred. No. 3.2e-09; Matches 20; Conservative 1; Mismatches 0
FILING DATE: 22-APR-1994
CLASSIFICATION 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION UNMBER: US 07/873907
FILING DATE: 24-APR-1992
APPLICATION NUMBER: JP 097655-1991
APPLICATION NUMBER: JP 096581-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
APTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:

APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: & CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSHMAN
STREET: 130 WATER STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34.25
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 SNNYNTYRSRKYTSWYVALKR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 130 V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 SNNYNTYRSRKYSSWYVALKR 21
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                                                                                                                                                                                                                                                                                                                                                                    US/08/231,894A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                                                               ; FRAGMENT TYPE: 1; ORIGINAL SOURCE:: US-08-231-894A-15
                                                              Query Match 97.4%; Score 112; DB 2; Best Local Similarity 95.2%; Pred. No. 3.2e-09; Matches 20; Conservative 1; Mismatches 0
                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 523-6440 INFORMATION FOR SEQ ID NO: 1 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                TENGTH: 146 amino acid
TYPE: amino acid
STRANDEDNESS: 'single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
100 SNNYNTYRSRKYTSWYVALKR 120
                 1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                  146 amino acids
                                                                                                                                                                                  internal
                                                                                                                                                                                                                                                                                                                                     15:
                                                                 0;
                                                                                             Length 146;
                                                                Indels
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Search completed: November 9, 2000, 15:33:00 Job time: 241 sec

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                      Score
  A_Geneseq_36:*
1: /SIDS1/gcgda
2: /SIDS1/gcgda
3: /SIDS1/gcgda
4: /SIDS1/gcgda
5: /SIDS1/gcgda
6: /SIDS1/gcgda
7: /SIDS1/gcgda
                                                                                                                                                                                                                                                                    Match
                                                                                                                                                                                                                                                                                                                                                                                                                                            | SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1982.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1983.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1985.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1987.DAT:*
| SIDS1/gcgdata/geneseq/geneseqp/AA1989.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp/AA1991.DAT:*
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| SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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Gapop 10.0 ,
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78
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRTKPEKCDKPRR 13
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                   R22348
R27354
W53640
Y57029
Y23944
R11385
R42607
Y23943
Y08278
Y33438
R91075
                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Search time 94.87 Seconds (without alignments)
4.686 Million cell updates/sec
            Alternative form o Sequence of vascular endotheli vascular endotheli vEGFA 146 amino ac Peptide derived fr Human vascular end Human vEGF-121. H Amino acid sequenc Human growth facto Parapox virus VEGF Human vascular end
                                                                                                                                                                                                                                                                Description
  VEGF121.
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RESULT R22348

R22348 standard; Protein; 146 AA.

29-JUL-1992 (first entry)

R22348;

9 50.	9 50.	9 50.	9 50.	9 50.	9 50.	9 50.	9 50.	9 50.	0 51.	0 51.	0 51.	0 51.	0 51.	0 51.	8.5 62.	5 66.	1.5 66.	2 66.	3 67.	3 67.	3 67.	3 67.	3 67.	3 67.	3 67.	367.	367.	3 67.	3 67.	53 67.	3 67.	3 67.
165	165	165	165	165	164	164	27	20	441	12	12	12	12	12	147	120	120	147	524	514	512	506	500	399	384	377	148	148	147	9 147 21	147	
108	W31086	108	R38921	9	R38920	R10911	Y43722	R36680	R94538	Y59621	Y57679	W53449	W55956	W74693	Y33437	R38916	R10916	Y07724	W00594	R94073	W00590	W00588	W00589	W00587	R94071	W00586	R94032	403	Y83033	941	Y90402	W62524
Vascular endotheli	Vascular endotheli	ar	Human VEGF-165. H	<			sequen	Guinea pig VPF C-t	D	Vascular endotheli	Human vascular end	Vascular endotheli	Human vascular per	Amino acid sequenc	Parapox virus VEGF		e vascular	an VEGF	(Gly4Ser)2VEG	SAP(Gly4Ser)VEGF12	AlaMet	SAP-AlaMet-VEGF121	SAP-AlaMet-VEGF121	SAP(Gly4Ser)4VEGF1	SAP(Gly4Ser)VEGF12	Met-VEGF1	VEGF121 Cys+2. Ho	L Cys	Human vascular end	o acid	ď	Amino acid sequenc

ALIGNMENTS

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Bayne ML, Conn GL, Thomas KA;
                                      21-SEP-1990;
21-SEP-1990;
                                                                                                                                                                                                Rattus.
                                                                                                                                                                                                                 Rat glioma cell: GS-9L; conditioned medium; heterodimer; VEGF-II; homodimer; mitoyenesis; vascular repair; blood vessel implant; polymerase chain reaction; alternative splicing.
                                                                    18-SEP-1991;
                                                                                                         EP476983-A.
                                                                                                                                                Protein
                                                                                                                                                                             Key
                                                                                                                                                                                                                                                          Alternative form of VEGF mature A-subunit with 120 amino acids.
                  (MERI ) MERCK & CO INC
                                                                                       25-MAR-1992
                                                                                                                                                                  Peptide
                                                                                                                                                                  Location/Qualifiers; 1..26
                                      90US-0586640
90US-0586638
                                                                    91EP-0308489
                                                                                                                            /label= VEGF_A-subunit
/note= "120 amino acids long"
                                                                                                                                               /label= signal
27..146
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Homo sap

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local s
Matches 12
   The full length coding region of the A subunit or monomer of VEGF is determined from three sets of overlapping cDNA clones. Degenerate oligo. primers based on the amino acid sequences Phe-Met-Asp-Val-Tyr-Gln from polypeptide L42 (residues 42-47) and
                                                            Disclosure; Fig 4; 61pp;
                                                                                       Vascular endothelial cell growth factor sub-units - vascular endothelial cell growth, used for inducing
                                                                                                                                                                    Bayne ML,
                                                                                                                                                                                       (MERI ) MERCK & CO INC.
                                                                                                                                                                                                               28-MAR-1991;
                                                                                                                                                                                                                                    27-MAR-1992;
                                                                                                                                                                                                                                                          30-SEP-1991.
                                                                                                                                                                                                                                                                                EP506477-A.
                                                                                                                                                                                                                                                                                                        Rattus.
                                                                                                                                                                                                                                                                                                                   Vascular development; mitogen; blood vessel; vascular endothelial growth factor; neovascularisation
                                                                                                                                                                                                                                                                                                                                                            Sequence of 146 amino ac
                                                                                                                                                                                                                                                                                                                                                                                                                                    R27354 standard; Protein; 146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Multiple cDNAs encoding alternative forms of the VEGF A-subunit were amplified using PCR primers as in Q23049 and Q23050. Three sets of clones were identified. Clone #12 encoded the 164 amino acid deletion and thus encodes a 120 amino acid form and Clone #16 has a 135 bp 72bp insertion and encodes a 120 amino acid form and Clone #16 has a 17 the deleted region lies between the second base of the Asn140 codon protein has Asn140 converted to Lys140.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 9; Page 14 and Fig 4; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vascular endothelial cell growth factor II - used as artificial blood vessels or to promote tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1992-098641/13
N-PSDB; Q23039.
                                                                                                                                           1992-325745/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rtkpekcdkprr 146
                                                                                                                                    028953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity 100.
12; Conseavative
                                                                                                                                                                 Thomas KA;
                                                                                                                                                                                                                                                                                                                                                            of vascular endothelial cell growth factor VEGF A acid residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146 AA;
                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                             91US-0676436
                                                                                                                                                                                                                                92EP-0302750
                                                                                                                                                                                                                                                                                                                                                       residue subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88.5%; SC
100.0%; Pr
                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 13; L
. 0.0031;
ches 0;
L42 (residues 42-47) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                               which stimulate
                                                                                      tissue repair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       coating
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Best Local s
Matches 12
    The present sequence represents a rat vascular endothelial growth factor II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140, was the deletion of His 141 to Arg 184 from the wild-type given in comprising an A subunit from w53639. The present invention describes: (1) a mammalian VEGF II protein from w53639, w53639 or the first 115-135 amino acids of w53638; and 2) mammalian VEGF comprising a heterodimer or homodimer of B subunit a mammalian VEGF comprising a heterodimer or homodimer of B subunits. and for promoting tissue repair.

N.B. The present sequence is not given inthe specification but is derived from Fig 5 as stated in the claim.
                                                                                                                                                                                                                                                                                                                                                            31-AUG-1994;
21-SEP-1990;
05-JAN-1993;
                                                                                                                                                                                           Claim 1; Page -; 46pp; English.
                                                                                                                                                                                                                             Vascular endothelial growth factor proteins - having specified A and
                                                                                                                                                                                                                                                                       WPI; 1998-206007/18
                                                                                                                                                                                                                                                                                                     Bayne ML,
                                                                                                                                                                                                                                                                                                                            (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                    31-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-MAR-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US5726152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mitogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascular endothelial growth factor II A subunit variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           W53640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W53640 standard; Protein; 146 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used to PCR amplify the central region of the cDNA for VEGF A chain. A single band migrating at 420 bp was gel purified, digested with Sall, ligated into pgEM3Zf(+) and sequenced. The nucleotide sequence cobtained (p4238) was used to design antisense and sense PCR primers are denoted p5-15 and pw3, respectively. In addition to the cDNA coding the 164 amino acid secreted form identified by protein sequencing, two alternatively spliced cDNAs encoding a 146 amino acid and a 214 amino acid forms are cloned and sequenced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-JUL-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 RTKPEKCDKPRR 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        endothelial cell growth factor; VEGF II; rat; glioma cell;
sis; blood vessel growth; artificial blood vessel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                               Conn GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                       900S-0586638
930S-0000834
                                                                                                                                                                                                                                                                                                                                                                                      94US-0299185
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                                                                                                                                                                                                                                                                                                Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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. 0.0031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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Sequence

146 PA;

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                                                                                                                                                                                                                                           Query Match
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Best Local Similarity
Matches 12; Conser
                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                 This is the amino acid sequence of a 146 amino acid residue A subunit of vascular endothelial cell growth factor (VEGF). The invention relates to a purified and isolated VEGF C subunit amino acid sequence Y57025. VEGF exists in various microheterogenous forms, and is useful for the promotion of vascular development and repair. The invention also relates to human VEGF heterodimers AC or EC and homodimer CC, where A, B and C are subunit amino acid sequences. The VEGF AC, BC or CC amino acid sequences can be used in a tissue repairing pharmaceutical composition. The novel growth factors are useful for the production or coverage of artificial blood vessels with vascular endothelial cell. They are also useful for the induction of tissue growth and repair.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US5994300-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF; vascular endothelial growth factor; A subunit; tissue growth; vascular development; artificial blood vessel; repair; human.
                    Y23944 standard; peptide;
                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 3; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Purified and isolated vascular endothelial cell growth factor C subunit for the induction of tissue repair or growth - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGFA 146 amino acid residue subunit sequence.
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                                                                                                                                 135
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                                                                                                                                                                                                                  Local Similarity nes 12; Conserv
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                                                                σ
                                                                                                                            RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000-038268/03.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                 146 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bayne ML;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88.5%; So ilarity 100.0%; I Conservative 0;
                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91US-0676436
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                                                                                                                                                                                                                                         100.0%;
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                       ₽
                                                                                                                                                                                                                                           Score 69;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ore 69; DB 19;
red. No. 0.0031;
Mismatches 0;
                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                DB 21;
                                                                                                                                                                                                                                           .0031;
                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                           Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 146;
                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                    0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
R11385
ID XXX ACC XXX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R11385;
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Query Match
Best Local S
Matches 9
                                                                                                                                                                                              Bovine vascular endothelial cell
                                                                                                                                                                                                                                               08-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence is derived from vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to 'VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-437318/37.
 Tischer ER,
                                                                                                                                   WO9102058-A.
                                                                                                                                                                                                                      Human vascular endothelial cell growth factor 121.
                                                                                                                                                                                                                                                                                               R11385 standard; Protein; 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              present in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 5; 6pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New VEGF121-specific monoclonal antibody - levels of VEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JP11178593-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide derived from vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y23944;
                                                                                   27-JUL-1990;
                                                                                                            21-FEB-1991.
                                                                                                                                                                                 wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (FJRE ) FUJIREBIO KK.
                                               14-DEC-1989;
27-JUL-1989;
                       (CALB-) CALIF BIOTECHN INC.
                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
nes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                        1 rarqekcdkprr
                                                                                                                                                                                                                                                                                                                                                                                  RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
Ab::hamam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97JP-0365972
                                                                                   · 90WO-US04227
                                               39US-0450883
39US-0387545
                                                                                                                                                                                    TVEGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97JP-0365972
                                                                                                                                                                                                                                                                                                                                                              12
                                                                                                                                                                                                                                                                                                                                                                                                                         67.9%;
75.0%;
                                                                                                                                                                                    PDGF.
 Fiddes
                                                                                                                                                                                                                                                                                                                                                                                                            Score 53; DB
Pred. No. 0.06
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             ۲,
                                                                                                                                                                                                                                                                                                Æ
 'n,
                                                                                                                                                                                               growth factor; angiogenesis;
 Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                         DB 20;
0.068;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             useful
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for measuring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growth factor
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RESULT
R42607
ID 2607
ID 270
AC R4
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Best Local
                                                                                                            27-JUL-1989;
14-DEC-1989;
27-JUL-1990;
     Abraham JA,
                                                           (SCIO-) SCIOS
                                                                                                                                                                                                                27-JUL-1989;
                                                                                                                                                                                                                                                             15-JUN-1993
                                                                                                                                                                                                                                                                                                              US5219739-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human VEGF-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Angiogenesis; wound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-OCT-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R42607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ulcers, burns, in surgery, in balloon angioplasty and for the invitro culturing of endothelial cells. Hybrid growth factors of pDGF and VEGF can exhibit a mitogenic profile between each factor and e.g. preventing the growth of tumours.

VEGF analogues in which CYS residues are substd. are more stable. See also Q10791-93; Q10796-97; Q10806-08 and Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         different message splicing, have different properties. In partic. hyper121 does not bind to heparin leaving more of the protein free to bind to VEGF receptor and increase the half-life and distribution of the protein in circulation, whereas hBEGF165 binds heparin strongly finer rescular surfaces in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic with the protein the increase in wound healing, e.g. treatment of full-thickness wounds such as dermal ulcers, venous ulcers and diabetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110 rarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The two forms of VEFG (Q10797 and Q10917) which arise through different message splicing, have different properties. In page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 7(1-2); 94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding vascular producing the factor f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 75.0 les 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1991-073534/10.
DB; Q11099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; Protein; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endothelial
        Fiddes JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 AA;
                                                           NOVA INC.
                                                                                                      89US-0387545.
89US-0450883.
90US-0559041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                          89US-0387545.
                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "inserted amino acid relative to byEGF"
115
                                                                                                                                                                                                                                                                                                                                                                                    /note= "Lys 115 of hVEGF-121 is replaced by 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          healing; mitogen; vascular endothelial cells; Cell Growth Factor; hVEGF-165; hVEGF-121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        67.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     r endothelial cell growth factor - used for for angiogenesis and re-endothelialisation
                                                                                                                                                                                                                                                                                                                                      amino acids encoded by an alternativel spliced exon in hymor-165 (see R38921)
        Mitchell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 53;
Pred. No.
     RĽ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
Tischer EG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
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RESULT
Y23943
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Best Local 9
                     The present sequence represents vascular endothelial growth factor (VEGF) 121. The specification describes a monoclonal antibody which is specific to VEGF 121, and a hybridoma producing this antibody. The antibody is used in a method for measuring the amount of VEGF 121
Sequence
                                                                                   Disclosure; Page 5; 6pp; Japanese
                                                                                                         New VEGF121-specific monoclonal antibody - useful levels of VEGF121
                                                                                                                                                   WPI; 1999-437318/37.
                                                                                                                                                                       (FJRE ) FUJIREBIO KK.
                                                                                                                                                                                                  24-DEC-1997;
                                                                                                                                                                                                                         24-DEC-1997;
                                                                                                                                                                                                                                                 06-JUL-1999.
                                                                                                                                                                                                                                                                       JP11178593-A.
                                                                                                                                                                                                                                                                                                                Vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                     21-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                            Y23943;
                                                                                                                                                                                                                                                                                                                                                                                                         Y23943 standard; peptide; 121 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The sequence of Q44260 contains an open reading frame corresponding to the 165 amino acid human vascular endothelial cell growth factor (hVEGF 165, see R38921). Alternative splicing of the sequence gives a shorter coding sequence which encodes the 121 amino acid hVEGF (see R42607). The full-length coding sequences be generated using PCR with human foetal vascular smooth muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         110 rarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3; Fig 7; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Isolated DNA sequences, expression vectors and transformant cells used for large scale prodm. of vascular endothelial cell growth factor, for treating wounds in which neo-vascularisation is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1993-205302/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
les 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 RTKPEKCDKPRR 13
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                  a sample,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q49601.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                      ·$7JP-0365972.
                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                              97JP-0365972.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67.98;
75.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 53; DB 14;
Pred. No. 0.54;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                         VEGF 121; monoclonal antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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Query Match Best Local Similarity

67.9%; 75.0%;

Score Pred.

No.;

DB 20;

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Query Match
Best Local Similarity
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                                                                                                                            RESULT
Y33438
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                                                                                                                                                                                                                                                                                                                           This invention describes the novel preparation of biologically active dimers of recombinant human growth factors of the cysteine knot family starting from cellular inclusion bodies. Such dimers are are useful in pharmaceutical compositions and the method provides yields of 31-39.7%, in examples, compared with about 10% for the conventional method (see Biochemistry, 28 (1989) 2956). Y08278-Y08301 are human growth factor
D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis; endothelial cell proliferation; gene therapy; diagnostic; tissue repair;
                                                                13-DEC-1999
                                                                                                                 Y33438
                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                   protein fragments used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 14; Page 7; 14pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Preparing active growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-278785/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Erdmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DE19748734-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Growth factor; pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human growth factor protein fragment VEGF-A121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y08278 standard;
                                    Parapox virus VEGF growth factor homologue protein fragment 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GBFB ) GES BIOTECHNOLOGISCHE FORSCHUNG MBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     110
                                                                                                                                                                              110 rarqekcdkprr 121
                                                                                                                                          10
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| rarqekcdkprr 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTKPEKCDKPRR 13
                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Η,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                            121 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kaerst U,
                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human; dimer; cysteine knot; cellular inclusion body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97DE-1048734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97DE-1048734.
                                                                                                                 Protein; 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                        67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mueller
                                                                                                                                                                                                                                                                                                                                                                                                                      German
                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 AA.
                                                                                                                                                                                                                            Score 53; DB
Pred. No. 0.54
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ú
                                                                                                                                                                                                                                                                                                                                                                                                                                                           dimers from inclusion bodies in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rinas
                                                                                                                                                                                                                                        DB 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Weich
                                                                                                                                                                                                                              2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ņ
                                                                                                                                                                                                                                                   Length 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Η;
                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                           high
                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
"-+-hes 9; Conserv:
                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           R91075
                                                                                                                                                                                                                                                                                                      RESULT 11
                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This invention describes a novel polypeptide that is a parapox virus homolog of human vascular endothelial growth factor (PPV-VEGF) and stimulates endothelial cell proliferation. The products of the invention have angiogenic activity. The polypeptide can be used in pharmaceutical compositions for therapeutic or diagnostic use, e.g. for stimulating angiogenesis or tissue repair or for immunomodulation, e.g. by stimulating endothelial cell proliferation or inhibiting dendritic cell differentiation. Nucleic acids encoding the polypeptide can be used in pharmaceutical compositions for DNA vaccination or gene therapy. This sequence represents a protein fragment of a parapox virus D1701 vascular endothelial growth factor (VEGF) homologue.
                                                                                                                                                Conjugate; growth factor; FGF; cytotoxin; saporin; eye; regulation; cell proliferation; psoriasis; pterygia; corneal clouding; cancer; rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homolog of human vascular endothelial growth factor useful for stimulating endothelial cell proliferation, e.g. for stimulati
                                                                                        Key
                                                                                                                                                                                                                                                       R91075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DE19813774-A1.
             W09524928-A2
                                                                                                                                                                                                  Human vascular endothelial growth factor-121, VEGF-121.
                                                                                                                                                                                                                            14-MAY-1996
                                                                                                                                                                                                                                                                             R91075 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               angiogenesis or tissue repair or for immunomodulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-552202/47.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dehio C, Roettgen M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PLAC ) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunomodulation;
                                                 Protein
                                                                          Peptide
                                                                                                              Homo sapiens
                                                                                                                                      heparin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                          135 rarqekcdkprr 146
                                                                                                                                                                                                                                                                                                                                                                 2 RTKPEKCDKPRR 13
                                                                                                                               binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           146 AA;
                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98DE-1013774
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; 16pp; German.
                                    /label= sig_peptide
27..147
/label= VEGF-121
                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                              Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dendritic cell differentiation; DNA vaccine
                                                                                                                                                                                                                                                                                                                                                                                                         67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rziha H,
                                                                                                                                                                                                                                                                             147
                                                                                                                                                                                                                                                                                                                                                                                             <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                      Score 53; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Buettner M;
                                                                                                                                                                                                                                                                                                                                                                                                                      멂
                                                                                                                                                                                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 146;
                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           stimulating
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RESULT
R94001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CC DNA encoding a VEGF can be used to create a fusion protein (FP).

CC encodes a heparin binding growth factor, HepGF (e.g. VEGF, FGF, HBEGF).

CC a protein synthesis inhibitor and opt. a linker imparting flexibility.

CC an antisense DNA sequence or an inhibitor of elongation factor?

CC coll carrying a HepGF receptor. The conjugates of the invention are

CC used to inhibit cell proliferation in cells carrying the particular cerestive proliferation of principles in to prevent cerestive proliferation of epithelial cells, fibroblasts and crecurrence of pterygii after surgery partic. to prevent crecurrence of pterygii after surgery partic. to prevent cerestive proliferation of epithelial cells, fibroblasts and crecurrence of pterygii after surgery and corneal clouding after tumours, restenosis, psoriasis, Dupuytren's contracture, diabetic xxx
                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local :
                                                                                  Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris; proliferation inhibition; VEGF-mediated pathophysiological condition; dermatological disorder; VEGF receptor; vascular proliferation; retina; ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis; conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
          07-MAR-1996
                                   W09606641-A1
                                                              Homo sapiens
                                                                                                                                                                                         VEGF121.
                                                                                                                                                                                                                  09-OCT-1996
                                                                                                                                                                                                                                                R94001;
                                                                                                                                                                                                                                                                   R94001 standard; Protein;
                                                                                                                                                                                                                                                                                                                                       136 rarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R91075-R91078 are human vascular endothelial growth factors (VEGFs).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New conjugates of growth factor receptor ligand and targetted agent partic. DNA or cytotoxin, used to control cell proliferation in the eye, e.g. to prevent growth of pterygii and corneal clouding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 184-185; 204pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1995-336820/43.
N-PSDB; Q99080.
                                                                                                                                                                                                                                                                                                                                                    2 RTKPEKCDKPRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PRIZ-) PRIZM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-MAR-1994;
15-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                                                        Similarity 75.09; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                   147 AA;
                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94US-0213447.
94US-0213446.
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                                                                                                                                                                                                                                                                                                                                                                                                     67.98;
75.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nova
                                                                                                                                                                                                                                                                                                                                                                                                  Score 53;
Pred. No.
                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MP,
                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sosnowski BA;
                                                                                                                                                                                                                                                                                                                                                                                                  DB 16; Length 147; 0.64;
                                                                                                                                                                                                                                                                                                                                                                                     2;
                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                0;
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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 9; Conserv
    21-AUG-1997;
01-NOV-1996;
                                                                                                                                        Human; vascular endothelial growth factor; VEGF; production; nitric oxide; prostacyclin; treatment; prevention; intimal hyperplasia blood vessel; essential hypertension; pulmonary arterial hypertension; PAH; cor pulmonale; atherosclerosis; (re)stenosis; angioplasty; coronary bypass operation; anastomosis; endarteriectomy.
                                            03-NOV-1997;
                                                                       14-MAY-1998
                                                                                                W09820027-A2.
                                                                                                                               Ното
                                                                                                                                                                                                                               Amino acid sequence of human VEGF-121.
                                                                                                                                                                                                                                                              11-SEP-1998 (first entry)
                                                                                                                                                                                                                                                                                                               W62524 standard; Protein; 147 AA.
                                                                                                                                                                                                                                                                                                  W62524;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                           136 rargekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R94001-R94004, R94031, R94032, R94039 and R94040 represent vascular endothelial growth factors (VEGF). This sequence represents VEGF12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 122-123; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vascular endotholial cell growth factor VEGF linked to targeted agent, used for cells, e.g. for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fleurbaaij GA, '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PRIZ-) PRIZM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-MAY-1995;
29-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                       2 RTKPEKCDKPRR 13
                                                                                                                            sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1996-160151/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
97GB-0017791
96GB-0022852
                                         97WO-GB03015
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94US-0297961.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Freund
                                                                                                                                                                                                                                                                                                                                                                                                                                                        67.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 53;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Houston LL,
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (VEGF) conjugates - having inhibiting proliferation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nova MP,
                                                                                                                                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sosnowski BA;
                                                                                                                                                                                 hyperplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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RESULT
Y90402
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Targetted gene delivery; fibroblast growth factor receptor; FGFR-binding protein; nucleic acid binding protein; electropy; receptor-internalised ligand; cytotoxin; saporin; gene therapy; cytocide; antiproliferative; cancer; melanoma; diabetic retinopathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or preventing any condition responsive to in vivo stimulation of nitric acid and prostacyclin (especially essential hypertension, pulmonary arterial hypertension (PAH), cor pulmonale and atherosclerosis. VEGF is specifically used to control (re)stenosis, where caused by PAH or by a surgical procedure such as angioplasty,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence represents human vascular endothelial growth factor 121 (VEGF-121). VEGF stimulates production of nitric oxide and prostacyclin. VEGF can therefore be used for treatment or prevention of intimal hyperplasia in a blood vessel. VEGF can be used for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Treatment or prevention of intimal hyperplasia by stimulating production of nitric oxide - by administration of vascular endothelial growth factor, useful for, e.g. treating or prevention of the provention of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-286857/25.
N-PSDB; V38450.
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                                                                                                                                                                                                                                                                                        14-MAR-2000
                                                                                                                                                                                                                                                                                                                                            US6037329-A
                                                                                                                                                                                                                                                                                                                                                                                                 Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               eczema; heaprin-binding epidermal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGF encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            intimal hyperplasia
                                                                                                                                                     15-MAR-1994;
15-MAR-1994;
                                                                                                                                                                                                                                      24-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular endothelial growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Y90402 standard; Protein; 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (EURO-) EUROGENE LTD.
                                                                                                         29-AUG-1994;
13-SEP-1994;
                      (SELE-) SELECTIVE GENETICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rheumatoid arthritis; restenosis, Dupuytren's contracture; psoriasis; sczema; heaprin-binding epidermal growth factor; HBEGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136 rarqekcdkprr 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14
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9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bypass operation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 54; 70pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Martin
                                                                                                 94US-0213446.
94US-0213447.
94US-0297961.
94US-0305771.
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                                                                                                                                                                                                                                   96US-0718904
                                                                          95US-0441979.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone VEGF121, SEQ ID NO:1.
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0.64;
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Y69412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                encoding a cytocoxin such as saporin. One or more linkers may join the CR FGFR-binding protein to the nucleic acid binding protein. These are selected to increase the specificity, toxicity, solubility, serum CR stability or intracellular availability, and may serve to promote condensation of nucleic acids for delivery to a cell. The fusion protein binds to FGFR and is internalised by cells that carry this receptor. The curry this receptor. The function, gene expression and viability of cells. In particular, it may composition is used for the therapeutic alteration of the function, gene expression and viability of cells. In particular, it may composite the treatment and prevention of cell proliferative disorders, correction, gene expression and represention of cell proliferative disorders, correction are the treatment and prevention of cell proliferative disorders, cretinopathy, psyllasis and eczema. The gene delivery compositions of the invention have high specificity for particular cells and can deliver carry to the proteins of the carry (VEGF), and sequences v90402-v90405 represent the encoded very proteins. Al2857 represents cDNA encoding human heparin-binding epidermal growth factor (HBEGF) precursor, and v90406-v90409 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                         Human; vascular endothelial growth factor; VEGF 121; angiogenic factor; blood vessel injury; vascular injury; microvascular angiopathy; thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome; toxic shock syndrome; venom; hypercoagulable state; platelet activation; platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis; intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel disease; stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury; acute respiratory distress syndrome; pneumonia; pulmonary emboli; birth prematurity disorder; wound; allergy; hypersensitivity; autoimmune disease; organ transplant; focal glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a novel gene delivery composition for the targetted delivery of cytotoxins or prodrug-converting enzymes to proliferating cells. The gene delivery composition comprises a protein that binds the fibroblast growth factor receptor (FGFR) which is fused chemically conjugated to a nucleic acid binding domain. The nucleic acid binding domain is complexed with a suitable expression construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene delivery system, useful for treating or preventing cancer and rheumatoid arthritis, comprises receptor-internalized ligand linked
                                                                                                                                                                                                                                                                                                                                                                                         03-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y69412 standard; Protein; 147 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid binding domain and nucleic acid
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                                                                                                                                                                                                                                                                                                                                         Amino acid sequence of vascular endothelial growth factor 121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HBEGF precusor and mature proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136 rargekcdkprr 147
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1; Mismatches
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Homo sapiens amyloidosis.

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Search completed: November 9, 2000, 15:30:38 Job time: 103 sec
                                                                                                                                                                                                                                                          The present sequence represents native human vascular endothelial growth CC factor (VEGF) 121. VEGF is an angiogenic factor. VEGF proteins are used for the prevention or repair of injury to blood vessels or associated convascular tissues (served by the blood vessels) and for the prevention croangiopathy. The proteins methods may also comparticularly thrombotic microangiopathy. The proteins methods may also comparticularly the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerilus and comparticularly the prevention and treatment of kidney diseases associated interstitium. Conditions which may be treated include haemolytic uremic comparticularly treated include haemolytic uremic computations which may be treated include haemolytic uremic compression, thrombotic thrombocytopenia purpura, disseminated intraction, ischemic bowel disease, transient ischemic composation injury, acute respiratory distress syndrome, toxic alveolar conjury, pneumonia, pulmonary emboli, birth prematurity disorders, companies, hypersensitivity, autoimmune diseases, organ transplants, focal glomerulosclerosis, and amyloidosis.
                                                                                                                                                            Query Match 67.9%;
Best Local Similarity 75.0%;
Matches 9; Conservative
                                                                                    2 RTKPEKCDKPRR 13
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136 rarqekcdkprr 147
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26-MAR-1999;
27-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 3; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors such as vascular endothelial growth factor (VEGP) -
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N-PSDB; Z99544.
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Pred. No. 0.64;
1; Mismatches 2; Indels
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Listing first 45 summaries
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1: /cgn2_6/ptodata/2,

2: /cgn2_6/ptodata/2,

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/cgn2_5/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_5/ptodata/2/iaa/5_COMB.pep:*
/cgn2_5/ptodata/2/iaa/PCTUS_COMB.pep:*
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          US-08-441-629-8

US-08-776-207-8

PCT-US95-09172-8

US-08-325-186-2

US-08-438-439C-24

US-08-325-186-1
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US-08-231-894A-12

US-08-231-894A-13

US-08-231-894A-14

US-08-231-894A-15

US-09-105-678A-49
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US-08-284-784-4
US-08-824-811-4
US-08-825-811-9
PCT-US90-06962-1
US-07-830-330-1
US-08-187-780-3
US-08-187-780-3
US-08-187-485-3
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11.846 Million cell updates/sec
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Sequence 3, Appli
Sequence 11, Appl
Sequence 12, Appl
Sequence 13, Appl
Sequence 14, Appl
Sequence 15, Appl
Sequence 49, Appl
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LENGTH: 132 mino acids
TYPE: maino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-100-744-4
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US-08-100-744-4
                                          Query Match
Best Local S
Matches 45
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ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSIEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NYMBER: US/08/100,744
FILING DATE: 02-AUG-193
CLASSIFICATION: 435
ATTORNEY/AGENT (NUMBER: 33,954
REFERENCE/DOCKET NUMBER: 3205-20275.00
TELEPHONE: (415) 813-5600
TELEPHONE: (415) 494-0792
TELEPAX: (415) 494-0792
TELEX: 706141
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Patent No. 5563046
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 12

CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERST

STREET: 755 Page Mill Road

CITY: Palo Alto

STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: MASCARENHAS
APPLICANT: ZHANG, SUNN
APPLICANT: OLSON, PAME
APPLICANT: OLSON, DAVI
APPLICANT: CARRILLO, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: POLYPEPTIDE FUSIONS TO INTERLEUKIN-1-LIKE POLYPEPTIDES
                                             l Similarity
45; Conserv
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US-07-959-369-7
US-08-023-757-2
US-08-023-757-4
US-08-177-502-2
US-08-177-502-2
US-08-139-725A-10
US-08-439-725A-10
US-08-319-725A-10
US-08-319-725A-10
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US-08-319-725A-10
US-08-9103-079-10
US-08-951-822-28
US-09-103-079-10
US-08-705-245-6
S514566-8
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Pred. No. 8e-28;
Mismatches
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Result No.

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Scoring table:

Sequence Sequence Sequence

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Sequence

6, Appli 2, Appli 3, Appli 4, Appli 2, Appli 2, Appli 1, Appli 10, Appli 11, Appli 11, Appli 11, Appli 11, Appli 11, Appli 11, Appli 12, Appli 13, Appli 14, Appli 14, Appli 15, Appli 16, Appli 17, Appli 18, Appli 19, Appli

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Title: Perfect score:

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GenCore version (c) 1993 - 2000

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Best Local S
Matches 45
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                                                                                                                                                                     Sequence 4, Application US/08854811 Patent No. 5914254
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (415) 494-079
TELEX: 706141
INFORMATION FOR SEQ ID NO:
                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR PC compatible
COMPUTER: PATENTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,784
FILING DATE: 02-AUG-1994
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: EXPRESSION OF FUSION POLYPEPTIDES
TITLE OF INVENTION: TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER SEQUENCES
NUMBER OF SEQUENCES: 44
                                                                                                                   APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: PARK, FREDDIE K.
REGISTRATION UNMBER: 35,636
REFERENCE/DOCKET NUMBER: 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
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              TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                  APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                    v match 100.0%; Local Similarity 100.0%; es 45; Conservative 0
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                                                                                                                                                                                                                                                                            10 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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755 Page Mill Road
 SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MASCARENHAS, DESMOND
                                                                  Olsen, David R. Cohen, Pedro A.
                                                                                                   Olson, Pamela S.
                                                                                                                   Zhang, Yang
                                                                                                                                      Mascarenhas, Desmond
                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         single
EXPRESSION OF FUSION POLYPEPTIDES TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER SEQUENCES 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4:
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Pred. No. 8e-28;
                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                    Length 132;
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; TOPOLOGY: linear US-08-854-811-4
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SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/854,811
FILING DATE: 12-MAY-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/284,784
FILING DATE: 02-AUG-1994
APPLICATION NUMBER: 08/100,744
FILING DATE: 02-AUG-1993
APTORNEY/AGENT INFORMATION:
NAME: Buffinger, Nicholas S
REGISTRATION NUMBER: 39,124
REFERENCE/DOCKET|NUMBER: 22095-20275.21
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Application PC/TUS9006962 GENERAL INFORMATION:
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
SOFTWARE: PATENTIN Release #1.24
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US90/06962
FILING DATE: 19901129
CLASSIFICIATION: Au 186/Cl 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/443,939
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 132 amino acids
TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                              APPLICANT: Baird, J. A.
APPLICANT: Hajjar, David P.
TITLE OF INVENTION: Treatment of HSV
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                          COMPUTER READABLE FORM:
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TELFAX: 706141
                                                                                                                                                                                                                                                         STREET: 135 SOULT CHICAGO STATE: Illinois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 755 PAGE CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM CON OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 650-813-300
TELEPHONE: 650-494-0792
                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 54
                                                                                                                                                                                                                                              COUNTRY: USA
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                                                                                                                                                                                                                                                                                                        E: Fitch, Even, Tabin & Flannery
135 South LaSalle Street, Suite 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
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US 07/443,939

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US-07-830-330-1
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US-07-830-330-1
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Best Local !
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                                                                                                                                               TELEFAX: (703)486-2347
TELEX: 24885
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
TYPE: AMINO ACID
                                                                                                                               TELEX: 248855 OPAT UR INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Mazue, Gu
TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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APPLICANT:
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TELECOMMUNICATION_INFORMATION:
TELEPHONE: (619)552-1311
                             TOPOLOGY: lin
MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acid
                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: VII
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mes 45; Conserv
                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US FILING DATE: 19920420 CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
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5. 5288704
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                                                                              H: 145 amino acids
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1755 Jefferson Davis Highway, Fourth Floor
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Battistini, Carlo
Carminati, Paolo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mazue, Guy
                                                              linear
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                                             protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYNERGISTIC COMPOSITION COMPRISING A FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE, FOR USE AS ANTIVIRAL AGENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20856
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US-08-187-780-3
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Best Local Similarity
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                                                                                                                                                                                                                                                                                   TELEFAX: (212) 753-6237 INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 07/800
FILING DATE: December 6,
APPLICATION NUMBER: 07/17:
FILING DATE: "APril 4, 1988
APPLICATION NUMBER: 07/06:
APPLICATION NUMBER: 07/06:
FILING DATE: June 16, 198
AFTORNEY/AGENT INFORMATION:
ANAME. "GUILLA" FEDERAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: CLAVULO L...
APPLICANT: DANIELA TALARICO
APPLICANT: DANIELA MAMMALIAN GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                     NAME: Howard M. Frankfort
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
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                                                                                                                                             FEATURE
                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
 OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: Januar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM or OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Diskette, MEDIUM TYPE: 360 Kb st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: UZIP: 10022
                                                                                                                                                                                                 TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 530
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                                                                                                                             NAME/KEY:
                                                                                                                                                              DESCRIPTION:
                                                                                                                                                                                                                                                 LENGTH:
                                                                                          IDENTIFICATION METHOD:
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                                                                                                                                                                                                 linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 Kb storage
                                                                                                                                                              Protein
                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 239; DB 1 100.0%; Pred. No. 9e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PC/MS-DOS
This sequence, corresponding to bovine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the application, as filed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07/177,506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07/806,771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07/901,705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/187,780
/ 25, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                07/062,925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.25 inch,
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corresponding to bowine basic fibroblast growth factor, can be found in Table 1, page 9, lines 9, 14, and 19, in the application, as filed.

This sequence,

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US-08-478-485-3
                                                                                                                                                                                        FILING DATE: Dare: 07/07/10/407
FILING DATE: CONCURRENT
APPLICATION 424
PRIOR APPLICATION DATA:
APPLICATION UNMER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/162,925
FILING DATE: June 16, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: JOSEPH R. ROBINSON
REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 5986/135
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
TRILETAX: (212) 527-7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/08478485 Patent No. 5883071
                                                                                                                                      TELEPHONE: (212) 527-77.
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
APPLICANT: DANIELA TALARICO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC/MS-DOS SOFTWARE: Wordperfect 5.1 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy Diskette, 3+ inch,
MEDIUM TYPE: 1.44 MB storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: OUT
STREET: New York
CTATE: New York
TSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                               TYPE: amino acid
STRANDEDNESS: si
                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/478,485 FILING DATE: Concurrently Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOCUMENT NUMBER: FILING DATE: PUBLICATION DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RELEVANT RESIDUES IN SEQ ID
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                                                          linear
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                                                                             single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; PUBLICATION DATE: RELEVANT RESIDUES IN SEQ ID NO: US-08-478-485-3
                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 1.5
SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION NOTA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
FILING DATE: 24-APR-1992
                                                CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
APPLICATION NUMBER: JP 066381-1992
ATTORNEY/AGENT INFORMATION:
NAME: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No. 5851990
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 11, App...
Sequence 10, App...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNBHIKO
TITLE OF INVENTION: BEGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: 6: CUSHMAN
TO WARREN STREET
                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
REFERENCE/DOCKET NUMBER:
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VOLUME:
ISSUE:
PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DENTIFICATION METHOD:
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100.0%; Pred. No. 9e-28;
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Mismatches

0

Gaps

0;

DB 2; Length 145; 0; Indels

41769-FWC

0

Indels

0;

Gaps

0

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US-08-231-894A-12
; Sequence 12, Application US/08231894A
; Patent No. 5851990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                     TELEFAX: (617) 523-64
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
MOLECULE TYPE: pept:
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: inter
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (617) 523-64-
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                           APPLICATION NUMBER: JP 00 FILING DATE: 24-MAR-1992 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                             APPLICATION NUMBER: JP 0
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 523-3400
                                                                                    REFERENCE/DOCKET NUMBER: 41769-FWC TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
                      SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: BOSTON
STATE: MASSAC
                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                        NAME: RESNICK, DAVID S. REGISTRATION NUMBER: 34235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
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                                                                      (617)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IBM Compatible
                                                                                                                                                                                              UMBER: JP 066381-1992
24-MAR-1992
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                                               7) 52
) 523-6440
NO: 12:
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US-08-231-894A-13
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Best Local Similarity
Matches 45; Conserv
     MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: FUNISH
APPLICANT: FUNIDA
                                                                                                                                                   INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYPOTHETICAL: NO ANTI-SENSE: NO FRAGMENT TYPE: Internal ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 07/873907
FILING DATE: ,24-APR-1992
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN;
ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: JP 097655-1991 FILING DATE: 26-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 22-APP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM CON OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 130 (CITY: BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: single TOPOLOGY: linear
                                                                                                   TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 342
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PLICANT: FUKUDA, TSUNEHIKO
TLE OF INVENTION: BEGF MUTEIN AND ITS PRODUCTION
                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
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5851990
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                                                                                                                                        146 amino acids
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                                                                                                                                                                                              (617) 523-6440
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100.0%; Pred. No. 9e-28;
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US-08-231-894A-13

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US-08-231-894A-14
              Query Match
Best Local Similarity
Matches 45; Conserv
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US-08-231-894A-14
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Best Local Similarity
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                                                                                                                MOLECULE TYPE: I
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: 1
ORIGINAL SOURCE:
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NFORMATION FOR SEQ ID NO: 14:
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LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: JP 0
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
GUARSTETONTON: 4-25
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ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: FUJISHIMA, AKIRA APPLICANT: FUKUDA, TSUNEHIKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sin
                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ Version 1.5
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: MASSACHUSETTS
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                     100.0%; ilarity 100.0%; Conservative 0
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                                                                                                                                internal
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24-MAR-1992
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                       0
                                                                                                                                                                                                                                                                                                                                    41769-FWC
                                 Score 239; DB 2
Pred. No. 9e-28;
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                                               DB 2;
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                                              Length 146;
                  Indels
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                                                         Query Match
Best Local Similarity
Matches 45; Conserv
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Sequence 15, AFF--
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NFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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NOTETAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
                                                                                                                                                                              HYPOTHETICAL: P
                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
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PRIOR APPLICATION DATA:
O7/873907
                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                         MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ Vers
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MEDIUM TYPE: Diskett
COMPUTER: IBM Compat
OPERATING SYSTEM: DC
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ADDRESSEE: & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTEIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
24 YCKNGGFFLR1HPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
               1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 0 FILING DATE: 24-APR-1992 CLASSIFICATION: 435
                                                                                                                                                                                                                         STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                   NAME:
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                                                                                                                                                                                                                                                                  LENGTH:
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ZIP: 02109
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                                                                                                                                                                                                                                                          146 amino acids
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                                                           100.0%; ilarity 100.0%; Conservative (
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                                                                                                                                                                internal
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                                                        Score 239; DB 2
Pred. No. 9e-28;
; Mismatches
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                                                                                 DB_2; Length 146;
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                                                        Indels
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                                                      0;
                                                     Gaps
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RESULT 13 US-09-105-678A-49

), Application US/09105678A 6103882

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RESULT 14
5464943-6
;Patent No. 5464943
; APPLICANT: SENGO, MASAHAR
; TITLE OF INVENTION: DNA E
;PRODUCTION THEREOF
; NUMBER OF SEQUENCES: 42
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; MOLECULE TYPE:
US-09-105-678A-49
5464943-6
                                                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 617-523-6440 INFORMATION FOR SEQ ID NO: 49:
                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/I
FILING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 172118/1997
FILING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US/09
FILING DATE: 26-JUN-1998
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: DIKE, BRONSTEIN, ROBERTS & CUSHMAN, LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: 617-523-3400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: STREET
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                          APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
FILING DATE: 20-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS
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REGISTRATION NUMBER: 27,026
REFERENCE/DOCKET NUMBER: 484
                                    LENGTH: 146
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ZIP: 02109
                                                                         NO:6:
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45; Conserv
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Moriya, Takeo
Tanaka, Yoko
Nishimura, Osamu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SENOO, MASAHARU;SASADA, REIKO;IGARASHI, KOICHI
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100.0%; Pred. No. 9e-28;
tive 0; Mismatches
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RESULT 15
5464943-8
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Search completed: November Job time: 241 sec
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; APPLICANT: SENO), MASAHARU;SASADA, REIKO;IGARASHI, KOICHI
ITITLE OF INVENTION: DNA ENCODING GLYCOSYLATED FGF AND
;PRODUCTION THEREOF
;NUMBER OF SEQUENCES: 42
;CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                           SEQ ID NO:8:
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FILING DATE: 15-JUL-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                        APPLICATION NUMBER: 7,089
FILING DATE: 19-JAN-1993
APPLICATION NUMBER: 511,469
FILING DATE: 20-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 68
                                                                                        1 YCKNGGFFLRIHPDGRYDGVREKSDPHIKLQLQAEERGVYSIKGV 45
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Copyright (c) 1993 - 2000 Compugen
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Database

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ALIGNMENTS

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A;Title: Primary stricture of ovine pituitary basic fibroblast growth factor. A;Reference number: $00185; MUID:8805577
A;Accession: $00185
A;Molecule type: protein
A;Residues: 1-146 <SIM>C;Superfamily: fibroblast growth factor
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor; heparin binding; mitogen
E;18-22/Region: heparin binding #status predicted
F;107-110/Region: heparin binding #status predicted
                                                                                                                                                                                                                                                                                                                            basic fibroblast growth factor - sheep N;Alternate names: prostatropin C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 10-Sep-1999 *sequence_revision 10-Sep-1999 C;Accession: S00185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fibroblast growth factor - rabbit (fragment)
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-137 <WIN>
                                                                                                                                                                                                                                                                                      R;Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.; FEBS Lett. 224, 128-132, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:L12034; NID:g165014; PIDN:AAA31248.1; PID:g165015 C;Superfamily: fibroblast growth factor
                         Query Match
Best Local :
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Score 239; DB 1;
Pred. No. 1.7e-24;
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A; Accession: A61094
A; Molecule type: pr
A; Residues: 12-25, 2
-A; Experimental sour
                                                                                                                                                                         R; Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, Blochem. Biophys. Res. Commun. 138, 580-588, 1986 A; Title: Isolation of an amino terminal extended form A; Reference number: A24819; MUID:86295737 A; Contents: annotation A; Cheng, J.; Lui, G.M.;
                                                                                          R:Gospodarowicz, p., 290, 1986
Endocrinology 118, 82-90, 1986
A:Title: Isolation of fibroblast growth fa
A:Title: Tolation of fibroblast growth fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R:Ueno, N.; Baird, A.; Esch, F.; Shimasaki, S.; Ling, Regul. Pept. 16, 135-145, 1986
A;Title: Purification and partial characterization of A;Reference number: A60310; MUID:87119165
A;Accession: A60310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: protein
A;Residues: 23-35,'X',37-42 <UEN>
A;Experimental source: liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MCI. Cell. Endocrinol. 51, 187-199, 1987

A.Title: Isolation, characterisation and tissue localisation of an N-terminal-trun
A; Reference number: A61550; MUID:87247652

A; Mcession: A61550

A; Mcession: A61550; MUID:87247652

A; Mcesidues: 16-35 < MEER>
R; Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, R.

MOI. Cell. Endocrinol. 49, 189-194, 1987

A; Title: Isolation and partial characterization of basic fibroblast growth factor
A; Accession: A61551; MUID:87162856

A; Mccession: A61551; MUID:87162856

A; Molecule true. A61551; MUID:87162856

A; Molecule true. A61551; MUID:87162856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: protein
A; Residues: 27-35, 'X', 37-41 <UE3>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Residues: 3-157 <AB2>
R;Milner, P.G.; Li, Y.S.; Hoffman, R.M.; Kodner, C.M.; Slegel, N.R.; Deuel, T.F. Biochem. Biophys. Res. Commun. 165, 1096-1103, 1989
A;Title: A novel 17 kD heparin-binding growth factor (HBGF-8) in bovine uterus: A;Reference number: A33784, MUID:90121211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:M13440; NID:g163049; PIDN:AAA30518.1; PID:g16
A;Experimental source: pituitary gland
R;Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
A;Title: Human basic fibroblast growth factor: nucleotide sequence,
A;Reference number: A90924; MUID:87217066
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A;Accession: A24663
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ernate names: bFGF; kidney-derived growth factor; prost
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5,27-35,'X',37-40 <GOS>
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N.; Guillemin,
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A; Rocealeut type: protein
A; Residues: 27-35,'X',37-43 <BAI>
A; Experimental source: kidney
R; Bohlen, P; Baird, A; Esch, F; Ling, N; Gospodarowicz, D.
A; Experimental source: kidney
R; Bohlen, P; Baird, A; Esch, F; Ling, N; Gospodarowicz, D.
Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
A; Title: Isolation and partial molecular characterization of pituitary fibroblast growledge of the major endothelial-c comment: Residues: 12-26 <BOHN
C; Comment: The acidic and basic fibroblast growth factors are the major endothelial-c c; Comment: The acidic and basic fibroblast growth factor
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds heparin more strongly than does aFGF.
C; Comment: This protein binds strowth factor
C; Keywords: alternative splicing; angiogenesis; blocked amino end; growth factor; hep F; 1-157/Product: basic fibroblast growth factor, uterine form #status predicted <MATIF; 12-157/Product: basic fibroblast growth factor, pituitary gamma form #status experiments fills: 157/Product: basic fibroblast growth factor, pituitary short form #status experimental <F; 27-157/Product: basic fibroblast growth factor, pituitary short form #status experimental <F; 23-3118-112/Region: heparin binding #status predicted
F; 4/Modified site: blocked amino end (Ala) (in mature form pituitary gamma) (probably
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type:
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A;Accession: A01386
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12-157 <ESC>
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basic fibroblast growth factor precursor, 22.5K form N;Alternate names: bEGF; fibroblast growth factor 2; N;Contains: basic fibroblast growth factor, 18K form C;Species: Homo sabiens (man)
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Best Local S
Matches 45
                                                                                                                                                                                 35
                                                                                                                                                                                    YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 79
                                                                                                                                                                                                                        ch 100.0%;
1 Similarity 100.0%;
45; Conservative 0
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Pred. No. 1.8e-24;
; Mismatches 0;
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A; Molecule type: mRNA A; Residues: 1-210 < PRA>

PID:g459811

A. Cross references: CB:J04513; NID:g183083; PIDN:AAA52531.1; R; Shibata, F.; Baird, A.; Florkiewicz, R.Z. Growth Factors 4, 277-287, 1991

A. Title: Functional characterization of the human basic fibre A. Reference number: &61537; MUID:92110035 fibroblast growth factor gene

A; Accession: A61537
A; Molecule type: DNA:
A; Residues: 1-114 <SEI>

A; Note: authors translated the codon GGA for residue Sasada, R.; Iwane, M.; Igarashi, K. 189-194, 1987 47 as

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A; Nolecule type: mRNA
A; Residues: 56-210 < KUR>
A; Residues: 56-210 < KUR>
A; Cross-references: GB: M27968; NID: g182562; PIDN: AAA52448.1; PID: g18: A, Cross-references: GB: M27968; NID: g182562; PIDN: AAA52448.1; PID: g18: R; Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
R; Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp, Quant. Biol. 51, 657-668, 1986
A; Title: Human basic fibroblast growth factor: nucleotide sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 56-210 <ABR>
A; Reference number: S00297; MUID:87053817
A; Accession: S00297
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A;Residues: 'XXX',19,'X',21-29 <SH2>
A;Residues: 'XXX',19,'X',21-29
A;Rote: Sequence extracted from NCBI backbone (NCBIP:71594)
R;Feige, J.J.; Bradley, J.D.; Fryburg, K.; Farris, J.; Cousens, L.C.; Barr, J. Cell Biol. 109, 3105-3114, 1989
A;Title: Differential effects of heparin, fibronectin, and laminin on the ph A;Reference number: A33624; MUID:90078343
A;Accession: A33624
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A; Molecule type: protein
A; Molecule type: protein
A; Residues: 'XX', 86-88, 'X', 90-91, 'X', 93-95 <SH3>
A; Experimental source: C-L121 hepatocellular carcinoma cell
A; Experimental source extracted from NCBI backbone (NCBIP:71595)
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A; Residues: 57-210 (FEI)>
R; Story, M.T.; Esch, F.; Shimasaki, S.; Sasse, J.; Jacobs,
Biochem. Blophys. Res. Commun. 142, 702-709, 1987
A; Title: Amino-terminal sequence of a large form of basic f
A; Reference number: A25824; MUID:8715686
A; Accession: A25824
A; Molecule type: protein
A; Residues: 57-77 <STO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Note: sequence extracted from A; Accession: B54316
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A;Accession: A54316
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A;Molecule type: mRNA
A;Residues: 54-210 <S
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A; Residues: 1-154 <SHI>
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Matches 45; Conserv
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N;Alternate names: b;GF
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 16-Jul-1999
C;Accession: A31674; S00876; S24309
R;Shimasaki, S.; Emoto, N.; Koba, A.; Mercado, M.; Shibata, F.; Cooksey, K.
Blochem. Blophys. Re3. Commun. 157, 256-263, 1988
A;Title: Complementary DNA cloning and sequencing of rat ovarian basic fibro
A;Reference number: A31674; MUID:89061721
A;Accession: A31674
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A;Map position: 4q25-4q27
A;Map position: 4q25-4q27
A;Start codon: CTG
C;Superfamily: fibroblast growth factor
C;Keywords: alternative initiators; anglogenesis; growth factor; heparin binding; mi
C;Keywords: basic fibroblast growth factor, 22.5K form #status predicted <MAZ>
F;65-210/Product: basic fibroblast growth factor, 18K form #status predicted <MAZ>
F;82-86/Region: heparin binding #status predicted
F;82-86/Region: heparin binding #status predicted
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A;Title: Multivalent ligand-receptor binding interactions in the 1 A;Reference number: A55784; MUID:94347757
A;Accession: B55784
A;Cross-references: GB:M22427; NID:g204285; R;Kurokawa, T.; Seno, M.; Igarashi, K. Nucleic Acids Res. 15, 5201, 1988
A;Title: Nucleotide. sequence of rat basic fi A;Reference number: 300876; MUID:88262516
A;Accession: S00876
A;Molecule type: mRNA
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A;Title: Purification and characterization o A;Reference number: S46253; MUID:94320639
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:S47380; NID:g256535
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 239; DB 2;
Pred. No. 2.5e-24;
); Mismatches 0;
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                                                                                                                                                                            PIDN: AAA41210.1;
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                                                                                      growth
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A;Experimental source: embryo
A;Note: sequence extracted from NCBI backbone (NCBIN:131000, R;Mitrani, E; Gruenbaum, Y; Shohat, H.; Ziv, T.
Development 109, 387-393, 1990
A;Title: Fibroblast growth factor during mesoderm induction i
                                                                                                                                           R;Borja, A.2.; Meijers, C.; Zeller, R.
Dev. Biol. 157, 110-118, 1993
A;Title: Expression of alternatively spliced bFGF first coding
A;Reference number: A48834; MUID:93246053
A;Accession: A48834
A;Status: preliminary
A;Molecule type: nucleic acid
A;Residues: 1-189 <BOR>
                     A;Title: Fibroblast growth factor during mesoderm induction in A;Refgrence number: S23636; MUID:90382254
                                                                                                                                                                                                                                                                                      C;Species: Gallus gallus (chicken)
C;Date: 01-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 16-Jul-1999
C;Accession: A48834; S23636 -----
                                                                                                                                                                                                                                                                                                                                                               RESULT 7

A48834

basic fibroblast growth factor - chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues; 1-154 <HEB>
A;Cross-references: GB:M30644; NID:g193296; PIDN:AAA37621.1; PID:g309239
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R; Hebert, J.M.; Basilico, C.; Goldfarb, M.; Haub, O.; Martin, G.R. Dev. Biol. 138, 454-463, 1990
A; Title: Isolation of cDNAs encoding four mouse FGF family members A; Reference number: A37360; MUID: 90201563
A; Accession: C37360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            basic fibroblast growth factor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL;X61697; NID:g56143; PIDN:CAA43863.1; PID:g56144 C;Superfamily: fibroblast growth factor C;Keywords: growth factor F;1-9/Domain: signal sequence #status predicted <SIG> F;10-154/Product: basic fibroblast growth factor #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;El-Husseini, A.E.D.; Paterson, J.A.; Myal, Y
Biochim. Biophys. Acta 1131, 314-316, 1992
A,Title: PCR detection of the rat brain basic
A;Reference number: $24309; MUID:92329546
A;Recession: $24309
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A; Residues: 35-154 <ELH>
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A;Cross-references: EMB
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Best Local S
Matches 44
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 238; DB 2;
Pred. No. 2.4e-24;
1; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 238; DB 2;
Pred. No. 2.4e-24;
1; Mismatches 0
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Y.; Shiu, R.P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibroblast growth factor (bFGF) mRNA conta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
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                                                                                          NCBIP: 131001;
                         the early chick embryo.
                                                                                                                                                                                                                                       exons
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Matches
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R; Kusewitt, D.F.; S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Species:
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    l Similarity
38; Conser
Conservative
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A; Molecule type: mRNA.
A; Residues: 95-110, Li2-155 <KI2>C; Superfamily: fibroblast growth
C; Keywords: growth factor
                                                                                 A; Title: Synergistic induction of mesoderm A; Reference number: A29618; MUID:88052890 A; Accession: A29618
                                                                                                                                                 R; Kimelman, D.; Kirschner, M. Cell 51, 869-877, 1987
                                                                                                                                                                                  A;Cross-references: GB:M18067; NID:g214177;
                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-155 < KIM>
                                                                                                                                                                                                                                                                                R;Kimelman, D.; Abrakam, J.A.; Haaparanta, T.; Palisi, T.M.; Kirschner, M.W. Science 242, 1053-1056, 1988
A;Title: The presence of fibroblast growth factor in the frog egg: its role A;Reference number: 240117; MUID:89058621
                                                                                                                                                                                                                                                                                                                                                                          C;Species: Xenopus leevis (African clawed C;Date: 10-Sep-1999 #sequence_revision 10-C;Accession: A40117; A29618
                                                                                                                                                                                                                                                                                                                                                                                                                                    basic fibroblast growth factor - African clawed frog
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C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R:Kusewitt, D.F.; Sabourin, C.L.K.;
submitted to the EMSI Data Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Accession: S23636
A;Status: preliminary
A;Molecule type: DNA;
A;Molecule type: DNA;
A;Residues: 95-128 <\diff
A;Cross-references: EMBL:X56804; NID:g62855; PIDN:CAA40139.1; PID:g62856
C;Superfamily: fibroblast growth factor
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A; Residues: 1-164 < KUS>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-Apr-1995
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43; Conser
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97.8%;
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Library, September 1992
                     factor
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Pred. No. 1.9e-23;
Pred. No. 1.9e-23;
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Pred. No. 2.2e-23;
2; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                     wed frog)
10-Sep-1999 #text_change 10-Sep-1999
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Score 199; DB 1; Pred. No. 3.7e-19; 3; Mismatches 4

Length 155

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acidic fibroblast growth factor 1 - rat
N;Alternate names: heparin-binding growth factor 1
C;Species: Ratus norvegicus (Norway rat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990
C;Accession: S04147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          acidic fibroblast growth factor - golden hamster
N.Alternate names: heparin-binding growth factor 1
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: A60721
R;Hall, J.A.; Harris, M.A.; Malark, M.; Mansson, P.E.; Zhou, H.; Harris, S.E.
J. Cell. Biochem. 43, 17-26, 1990
A;Title: Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and cDNA
A;Reference number: A60721; MUID:90270291
Dev. Biol. 138, 454-405, 200
A;Title: Isolation of cDNAs encoding four
A:Reference number: A37360; MUID:90201563
                                                acidic fibroblast growth factor - mouse N;Alternate names: aFGF; FGF-1 C;Species: Mus musculus (house mouse) C;Date: 17-Apr-1993 #sequence_revision C;Accession: D37360; JC5231 R;Hebert, J.M.; Basilico, C.; Goldfarb, Dev. Biol. 138, 454-463, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: mRNA
A;Residues: 1-155 <GOD>
A;Cross-references: EMBL:X14232; NID:g56351; PIDN:CAA32448.1; PID:g56352
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor; heparin binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Goodrich, S.P.; Yan 6.C.; Bahrenburg, K.; Mansson, P.E. Nucleic Acids Res. 17, 2867, 1989
A;Title: The nucleotide sequence of rat heparin binding growth A;Reference number: S04147; MUID:89240051
A;Accession: S04147
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A;Status: not compared with conceptual translation
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A; Residues: 1-155 <HAL>
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Best Local
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Best Local
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                                                                           C.; Goldfarb, M.;
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Pred. No. 1.9e
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                         Score 156; DB 2;
Pred. No. 1.9e-13;
3; Mismatches 11
                                                                                                                    17-Apr-1993 #text_change 16-Jul-1999
                                   mouse
                                                                           Haub,
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                                     FGF
                                                                           O.; Martin,
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                                                                                                                                                                                                                                                                                                                                                                                                               Length 155;
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                                 family members
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A; Molecule type: mRNA
A; Residues: 1-155 <SC
A; Cross-references: G
                                                      A, Title: Differentiating and mature neurons A; Reference number: A60130; MUID:91347925 A; Accession: A60130; ACCESSION: A60130; A75tatus: preliminary
                                                                                                                                                                C; Accession: A60130; S02639
                                                                                                                                                                                    acidic fibroblast growth factor - chicken
N;Alternate names: endothelial cell growth factor
C;Species: Gallus gallus (chicken)
C;Date: 03-Mar-1993 #sequence_revision 03-Mar-1993 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                     RESULT
A60130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-155 <GRI>
C;Comment: This protein is a potent mitogenic factor
C;Superfamily: fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Grieb, T.W.; Ring, M.; Brown, E.; Palmer, C.; Belle, N.; Donjerkovic, D.; Chang, Biochem. Biophys. Res. Commun. 246, 182-191, 1998
A;Title: Primary structure of ovine fibroblast growth factor-1 deduced by protein a A;Reference number: JW0055; MUID:98262939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fiblobrast growth factor-1 - sheep
N;Alternate names: FGF-1
C;Species: Ovis sp. (sheep)
C;Date: 17-Jun-1998 *sequence_revision 10-Jul-1998 *text_change 07-May-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Gene: Fgf-1
A; Introns: 57/1;
C; Superfamily: f:
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A;Title: Cloning and characterization of the
A;Reference number: JC5231; MUID:97128312
A;Accession: JC5231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:M30641; NID:g193284; PIDN:AAA37618.1; R;Madia1, F.; Hackshaw, K.V.; Chiu, I.M. Gene 179, 231-236, 1996
                                                                                                                                  R;Schnuerch, H.; Risau, W.
Development 111, 1143-1154, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Accession:
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A; Residues: 1-155 <MAD>
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A; Residues: 1-155 <HEB>
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30; Conservative
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                    <SCH>
  GB:S63263;
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68.2%;
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NID:g234372; PIDN:AAB19629.1;
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Pred. No. 3.5e-13;
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Pred. No. 1.9e-J
3; Mismatches
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                                                                                                                the acidic fibroblast growth
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acidic fibroblast growth factor - pig (fragment)
C;Species: Sus scrofa domestica (domestic pig)
C;Species: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 16-Jul-1999
C;Accession: JH0476; S20072
C;Accession: JH0476; S20072
R;Schmidt, M.; Sharma, H.S.; Schott, R.J.; Schaper, W.
Biochem. Biophys. Res. Commun. 180, 853-859, 1991
A;Title: Amplification_and sequencing of mRNA encoding acidic fibroblast growth factor (A;Reference number: JH0476; MUID:92062117
A;Reference number: JH0476; MUID:92062117
A;Accession: JH0476
A;Molecule type: mRNA
A;Residues: 1-152 <SCH>
A;Cross-references: EMEL:X60317; NID:91873; PIDN:CAA42869.1; PID:91874
A;Experimental source: heart
A;Experimental source: heart
C;Comment: This protein belongs to the fibroblast growth factor family: fibroblast growth factor; heparin binding
F;22-28/Region: nuclear location signal
F;133/Binding site: heparin (Lys) #status predicted
Search completed: November 9, 2000, 15:31:52 Job time: 173 sec
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A;Residues: 22-30,'X',32-44,'X',46-48 <RIS>
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor
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EMBO J. 7, 959-962, 1988
A;Title: Endothelial growth factors in embryonic and adult chick brain are related A;Reference number: S02639; MUID:88296438
A;Accession: S02639
                                                                                                                                                                                                                                                  Query Match
61.9%; Score 148; DB 2; Length 152;
Best Local Similarity 67.4%; Pred. No. 2.2e-12;
Matches 29; Conservative 3; Mismatches 11; Indels
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Best Local Similarity 67.4%;
Matches 29; Conservative
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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P48799 oryctolagus
P03969 bos taurus
P039038 homo sapien
P20003 ovis aries
P15655 mus musculu
P13109 rattus norv
P48800 gallus gall
P48798 monodelphis
P12226 xenopus lae
P34004 mesocricetu
P19935 mus musculu
P19956 gallus gall
P20002 sus scrofa
P03968 bos taurus
P21658 mus musculu
P10767 homo sapien
P48804 gallus gall
P48803 brachydanio
P18804 gallus gall
P48807 brachydanio
P15656 mus musculu
P18807 brachydanio
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P18808 rattus gall
P18807 brachydanio
P18659 mus musculu
P18808 renopus lae
Q2912 homo sapien
P087979 mus musculu
P18806 xenopus lae
P11487 homo sapien
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P03969;
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23-OCT-1986 (Rel. 02, Last sequence update)
23-OCT-1996 (Rel. 3, Last annotation update)
01-FEB-1996 (Rel. 3, Last annotation update)
HEPAXIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBRO-
HEPAXIN-BINDING GROWTH FACTOR 2 (BASIC FIBRO
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Baird A., Esch F., Boehlen P., Ling N., "Isolation and partial characterization factor from the bovine kidney: homology
                                   X-RAY CRYSTALLOGRAPHY (3.0 ANGS MEDLINE; 91095983.
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[6]
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MEDLINE; 86295737.
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ESCH F., Baird A., Ling N., Ueno N., Hill F.,
Gospodarowicz D., Boehlen P., Guillemin R.;
"Primary structure of bovine pituitary basic
(FGF) and comparison with the amino-terminal
                                                                                                                                                                                           Regul. Pept.
[7]
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Ueno N., Baird A.,
"Purification and
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Ueno N., Baird A.,
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Query Match Best Local S Matches 45

Similarity

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Score 239; Pred. No. 4

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Length 155; Indels

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Science 251:90-93(1991).
-!- FUNCTION: THE HEPARI
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A24819; A24819.
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Gimenez-Gallego G., C
"Human brain-derived
"Thuman brain-derived"
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"High molecular mass initiated by alternated alternated by alt
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n brain-derived acidic and basic fibroblast
terminal sequences and specific mitogenic ac
em. Biophys. Res. Commun. 135:541-548(1986).
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., Kaghad M., Pra
P., Chalon P.,
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alternative CUG codons.
Acad. Sci. U.S.A. 86:183
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-!- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
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Hsu B.T., Rees
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"Three-dimensional structure of human basic fibroblast
a structural homolog of interleukin 1 beta ";
proc. Natl. Acad. Sci. U.S.A. 88:3446-3451(1991).
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T., Esch F.,
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                                                                                             SEQUENCE
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
Growth factor; Mitogen; Vasc
                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                    STRAND
                                                                                                                                                                                                                                                                                                           PROPEP
                                                                                                                                                                                                                                                                                                                3D-structure
                                   \mathfrak{S}
                                 B32878; B32878.

S00297; S00297.

ZFGF; 15-APR-92.

4FGF; 15-JUL-93.

1FGA; 15-JUL-93.

1EGB; 03-APR-96.

1BFC; 03-APR-96.

1BFC; 16-JUN-97.

1BFG; 31-JAN-94.

2BFH; 30-APR-94.

1BLA; 08-NOV-96.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  B24243;
B24301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               A25824;
A26642;
                                                             1 Similarity
45; Conser
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                                                            100.0%;
llarity 100.0%;
Conservative 0
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A26642.
B24243.
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                                                                                             AA;
    STANDARD;
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48
90
31
119
                                                                                            17254 MW;
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                                                            0,
                                                          Score 239; DB 1;
Pred. No. 4.2e-25;
Mismatches 0;
                                                                                                                                                                                                                                                                        HEPARIN-BINDING GROWTH FACTOR 2.
CELL ATTACHMENT SITE (POTENTIAL).
CELL ATTACHMENT SITE (POTENTIAL).
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
    PRT;
                                                                                           BE6CE13373007129 CRC64;
    155
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                                                                                                                                                                                                                                                                                                                    Heparin-binding;
                                                                       Length 155;
                                                           Indels
                                                           0
                                                           Gaps
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RESULT 5
FG72_MOUSE STANDARD; 1
ID FG82_MOUSE STANDARD; 1
AC P15655;
DT 01-APR-1990 (Rel. 14, Created)
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Best Local 9
                                                                                                                                                                                                                                                                         Matches
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PIR; S00185; S00185.
HSSP; P99038; IBEF
INTERPRO; IPR002209; -.
INTERPRO; IPR002248; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; [ILLHBGF.
PRINTS; PR00263; HBGFFGF.
PRINTS; PR00263; HBGFFGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Vascul
PROPEP
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BINDING
SEQUENCE
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FEBS Lett. 224:128-132(1987).

FOOTH FEBS Lett. 224:128-132(1987).

FOOTH FEBS Lett. 224:128-132(1987).

FEBS Let
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01-FEB-1991
01-FEB-1996
01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GROWTH FACTOR) (BFGF) (PROSTATROPIN).
FGF2 OR FGF-2.
Ovis aries (Sheep).
Cutaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARRIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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- I- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Simpson R.J., Moritz R.L., Lloyd C.J., Fabri L.J., Nice E.C., Rubira M.R., Burgess A.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 9-155.
MEDLINE; 88055577.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sutton R., Ward W.G., Rosubmitted (SEP-1994) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bovidae; Caprinae;
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                                                                                                                                                                              33
                                                                                                                                                                    l Similarity
45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                1
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45
87
27
116
155 A
                                                                                                                                                                                                                                                                    100.0%; ilarity 100.0%; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mitogen; Vascularization; Heparin-binding.
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to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                                                                                                                        , WM
                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                   HEPARIN-BINDING GROWTH FACTOR 2.
CELL ATTACHMENT SITE (POTENTIAL).
CELL ATTACHMENT SITE (POTENTIAL).
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
; B5F2364BA610606D CRC64;
                                                                                                                                                                                                                                                                  Score 239; DB 1;
Pred. No. 4.2e-25;
; Mismatches 0;
                                                        154
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                                                                                                                                                                                                                                                                                                              Length 155;
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RESULT
FGF2.RAT
ID FGF3
AC P133
DT 01-0
DT 15-0
DT 15-0
DE HEPP
DE GROY
GN FGF:
OC FGF:
OC Mann
                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWI
between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Isolation of cNAs encoding four mou
characterization of their expression
Dev. Biol. 138:454-463(1990).
                                                                                                                                                                              FGF2_RAT P13109;
                                                                                     01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HEGF-2)
GROWTH FACTOR) (BFGF) (PROSTATROPIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PRO0262; ILIHBGF.
PRINTS; PRO0263; HBGFFGF.
PROSITE; PRO0247; HBGFFGF; 1.
Growth factor; Mitogen; Vascularization; Heparin-binding.
PROPEP 1 9
PROPEP 1 9
PROPED 1 154
BINDING 154
BINDING 26 30 HEPARIN (POTENTIAL).
BINDING 115 118 HEPARIN (POTENTIAL).
SEQUENCE 154 AA; 17153 MW; 689F677416274388 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
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01-FEB-1996 (Rel. 34, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST
GROWTH FACTOR) (BFGF) (PROSTATROPIN).
                                   Rattus norvegicus (Rat)
Eukaryota; Metazoa; Cho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M30644;
PIR; C37360; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FGF2
                                                                          FGF2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO;
                                                                                                                                                                                                                                                                                        32
                                                                                                                                                                                                                                                                                                                          Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

SUBUNIT: MONOMER.

MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mGI:95516; FGF2.
ERPRO; IPRO02209; -.
ERPRO; IPRO02348; -.
M; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                   σ
                                                                          OR FGF-2
                                                                                                                                                                                                                                                                                                         YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copy
een the Swiss Institute
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                                                                                                                                                                                                                                                                                       YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      237360; C37360.
P09038; 1BFF.
                                                                                                                                                                                                                                                                                                                                                             44;
                                                                                                                                                                                                                                                                                                                                                                          Similarity
                      Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eutheria;
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                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                               STANDARD
                  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                          99.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               copyright. It is produced through tute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                          Pred. No. 5.6e
1; Mismatches
                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mouse FGF family members
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                                                                                                                                                                                                                                                                                                                                                                              DB 1;
.6e-25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GROWTH FACTOR
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                                                                                                          (BASIC
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; Murinae; Mus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions on
tent is in no
                                                                                                                                                                                                                                                                                                                                                                                                 154;
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                                                                                                          FIBROBLAST
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δÃ 밁

Query Match
Best Local Similarity
Matches 44; Conserv

Conservative

99.6%;

Score 238; DB Pred. No. 5.6e 1; Mismatches

DB 1; 1 6.6e-25; les 0;

0

Gaps

0

Length

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PROPEP CHAIN BINDING BINDING SEQUENCE
                                                                                                                                                                                                                                               use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 1-28 FROM N.A. STRAIN-SPRAGUE-DAWLEY; TIS MEDLINE; 97200905.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Cooksey K., Baird A., Ling
"Complementary DNA cloning
                                                                 PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
Growth factor; Mitogen; Vasc
                                                                                                                                                                                     EMBL; M22427; AAA41210.1; -. EMBL; X07285; CAA30265.1; -. EMBL; U78079; AAC53225.1; -. EMBL; X61697; CAA43863.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                   El-Husseini A.E.D., Paterson J.A., Myal Y., Shiu R.P.C.;
"PCR detection of the rat brain basic fibroblast growth fact
mRNA containing a unique 3' untranslated region.";
Biochim. Biophys. Acta 1131:314-316(1992).
-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGE
-IN VIVO AND ARE POTENT MITOGERS FOR A VARIETY OF CELL TY
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION
CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 35-154 FROM STRAIN-SPRAGUE-DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shimasaki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-SPRAGUE-DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM
                                                                                                                                                   PIR; S00876; S00876.
PIR; A31674; A31674.
HSSP; P09038; 19FF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pasumarthi K.B.S., Jin Y., Cattini P.A.; "Cloning of the rat fibroblast growth facto: its response to mitogenic stimuli in glioma J. Neurochem. 68:898-908(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                  INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                           between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE; 88262516.
Kurokawa T., Seno M.,
"Nucleotide sequence
                                                                                                                                                                                                                                                                                              ween the Swiss Institute of Bioinf
European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                           AFGF.
SIMILARITY:,
                                                                                                                                                                                                                                                                                                                                                                    MISCELLANEOUS:
                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: MONOMER.
TISSUE SPECIFICITY:
                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation
    PS002.
h factor;
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                                                                                                                                                                                                                                                                                                                                             BELONGS
154
30
118
17139 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A cloning and sequencing of rat ovarian factor and tissue distribution study on Res. Commun. 157:256-263(1988).
                                                                                                                                                                                                                                                                                                                                                                     THIS
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TISSUE=BRAIN;
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ing N.
                                                                  Vascularization; Heparin-binding
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plast growth factor-2
            MW;
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           HEPARIN-BINDING GROWTH
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
; la0f14ff423D8403 CRC6
                                                                                                                                                                                                                                                                                                                                             HEPARIN-BINDING GROWTH FACTORS FAMILY
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RE STRONGLY
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RESULT 8
FGF2_MONDO
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FGF2_CI
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Best Local
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01-FEB-1996 (Rel. 33, La
01-FEB-1996 (Rel. 33, La
HEPARIN-BINDING GROWTH F
GROWTH FACTOR) (BFGF).
FGF2 OR FGF-2.
         FGF2_MONDO
P48798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00262; ILLHBGF.

PRINTS; PR00263; HBGFFGF; 1.

PROSITE; PR00247; HBGF_FGF; 1.

PROSITE; PS00247; HBGF_FGF; 1.

BY SIMILARITY.

BY SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M95707; AAA48617.1;
HSSP; P09038; 1BFF.
INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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Eukaryota; Metazoa; Chordata; (
Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between
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Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FGF2_CHICK P48800;
                                                                                                                                                                                                   36
                                                                                                                                                                                                                                                                                                                                                      Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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YCKNGGFFLRIHPDGRVDGVREKSDPHVKLQLQAEERGVVSIKGV
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                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                          STANDARD;
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97.8%;
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Neognathae; Galliformes; Phasianidae; Phasianinae;
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Last annotation updat
H FACTOR 2 PRECURSOR (
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Pred.
                                       PRT;
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                                                                                                                                                                                                                                                                                                                                               232; DB 1;
No. 3.7e-24;
                                       156
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RESULT
FGF2_XI
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Best Local S
Matches 43
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FGF2_XENLA
P12226;
01-OCT-1989
01-JAN-1990
01-JAN-1997
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Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Me
                                                           GROWTH FACTOR) (BFGF). FGF2 OR FGF-2.
                                                                                   01-OCT-1989 (Rel. 12, Created)
01-JAN-1990 (Rel. 13, Last seq
01-NOV-1997 (Rel. 35, Last ann
HEPARIN-BINDING GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                          Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; 215154; CAA78854.1; ALT_INIT. HSSP; P09038; 1BFF. INTERPRO; IPR002209; -. INTERPRO; IPR002348; -. PFAM; PF00167; FGF; 1. PFINTS; PR00262; IL1HBGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Characterization of cDNA encoding basic fibroblast growth fact, the marsupial Monodelphis domestica.";
DNA Cell Biol. 13:549-554(1994),
-i- FUNCTION: THE HEDARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENY MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

1- MISCRILANFORD. -----
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MEDLINE; 94296558
Kusewitt D.F., Sal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1996 (Rêl. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Monodelphis domestica (Short-tailed grey opossum).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Metatheria; Didelphimorphia; Didelphidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
                                                                                                                                                                                                                                       YCKNGGFFLRJHPDGRVDGIREKSDPNIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                    YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                     l Similarity
43; Conserv
                                                                                                                                                                                                                                                                                                     Conservative
Xenopus
                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BFGF)
                                                                                   Last sequence update)
Last annotation update)
H FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                 95.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascularization;
                                                                                                                                                                                                                                                                                                                                                                             MW;
            Mesobatrachia; Pipoidea;
                                                                                                                                                                                                                                                                                                   2,
                                                                                                                                                                                                                                                                                                                Score 231; DB 1
Pred. No. 5e-24;
                                                                                                                                                                                                                                                                                                                                                                          HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
7E655FCC49BF1209 C
                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY. HEPARIN-BINDING GROWTH FACTOR
                               Craniata;
                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                  155
            Vertebrata; Euteleostomi;
ia; Pipoidea; Pipidae;
                                                                                                                                                                A
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                                                                                                                                                                                                                                                                                                                              1.
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                                                                                                                                                                                                                                                                                                                              Length
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                                                                                      (BASIC
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Monodelphis.
                                                                                      FIBROBLAST
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RESULT
FGF1_MI
     RRAN OCC OCC OCC RTAN
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Best Local S
Matches 38
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; TL1HBGF.
PRINTS; PR00263; HBGFFGF.
PRO261; PR00267; HBGFFGF; 1
 SEQUENCE FROM N.A. MEDLINE; 90270291. Hall J.A., Harris M. "Characterization of and its modulation b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
BINDING
BINDING
                                                                                                                                                                                 FGFI_MESAU STANDARD; PRT; 155 AA. p34004; 01-FEB-1994 (Rel. 28, Created) 01-FEB-1994 (Rel. 28, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) GROWTH FACTOR) (AFGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 89058621.
Kimelman D., Abraham J., Haapai
"The presence of fibroblast groas a natural mesoderm inducer."
Science 242:1053-1056(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bloinformatics and the EMBL outst the European Bloinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for come entities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 95-155 FROM N.A. MEDLINE; 88052890.
Kimelman D., Kirschner M.;
"Synergistic induction of mesoderm by identification of an mRNA coding for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [1]
SEQUENCE
                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; M18067; AAA49726.1;
PIR; A29618; A29618.
PIR; A40117; A40117.
HSSP; P09038; 1BFF.
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                                                                                                                                                                             FGF1 OR FGF-1
                                                                                                                                                                                                                                                                                                                     MESAU
                                                                                                          Mesocricetus
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                                                                                                                                                                                                                                                                                                                                                                                   YCKNGGFFLRINSDGRVDGSRDKSDSHIKLQLQAVERGVVSIKGI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    factor; Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         th 83.3%;
Similarity 84.4%;
38; Conservative
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89058621.
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27
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                   of the
M.A., Malark M.,
of the hamster D
n by steroids.";
                                                                                                                     s (Golden hamster).
Chordata; Craniata; Vertebrata; I
Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WW;
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HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
MISSING (IN REF. 2).
MISSING (IN REF. 2).
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growth factor in the frog
                     DDT-1
                  Mansson P.E., Zhou H., Harris S.E.;
DT-1 cell arGF/HGBF-I gene and cDNA
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.8e-20;
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                                                                                                                         Euteleostomi;
; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FACTOR
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Query Match
Best Local
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PIR; A60721, A60721.
HSSP; P05230; 2AXM.
INTERPRO; IPR002209; -
INTERPRO; IPR002348; -
PFAM; PF00167; FGF; 1.
                                             MEDLINE; 97:
Madiai F., )
"Cloning an
Gene 179:23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Cell. Biochem. 43:17-26(1990).

-:- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIGGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-!- SUBUNIT: MONOMER.

-!- MISCELLAMEOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STETHAN DOES BFGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _MOUSE STANDARD; PRT; 155 AA P10935; O1-JUL-1989 (Rel. 11, Created) O1-JUL-1989 (Rel. 11, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (
                                                                                                                                                          Hebert J.M., Basilico C., Goldfarb M., Haub O., Martin G.R. "Isolation of cDNAs encoding four mouse FGF family members characterization of their expression patterns during embryo Dev. Biol. 138:154-463(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GROWTH FACTOR) (AFGF).
FGF1 OR FGF-1 OR FGFA.
SEQUENCE FROM N.A
SPECIES-MOUSE; STI
                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                       MEDLINE; 89240051.
Goodrich S., Yan G.C., Bahre
"The nucleotide sequence of
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. SPECIES=RAT;
                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mɔuse), and Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                             MEDLINE;
                                                                                                                                                                                                                                           SPECIES-MOUSE
                                                                                                                                                                                                                                                                                          Nucleic
                                                                                                                                                                                                                                                                                                           (HBGF-:
                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESAGEVYIKG
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                                                                                                                                                                                                                                                                              Acids Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 68.:
30; Conservative
                                           and characterization: 231-235(1996).
                                                                                            97128312
                                                                                                                                                                                                                        90201563
STRAIN-BALB/C
                                                                                                                                                                                                                                                                                        17:2867-2867(1989).
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                                                                                                                                                                                                                                                                                                                       Bahrenburg K., Mansson P.
ce of rat heparin binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
                                                                               Chiu
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HEPARIN (POTENTIAL)
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3; Mismatches
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HEPARIN-BINDING GROWTH FACTOR
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                                                               .M.;
                                                               mouse
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                                                              Fgf-1
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                                                              gene.";
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                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi;
Murinae; Mus
                                                                                                                                                                           embryogenesis.";
                                                                                                                                                                                                           G.R.;
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RESULT
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AC P.
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DT 0
DT 0
DE GN I
OC OC
OC OC
OC OC
RN
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RP
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RX
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Best Local Similarity
Watches 30; Conserv
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SEQUENCE FROM N.A. MEDLINE; 91347925.
Schnurch H., Risau V "Differentiating and
                                                                                                                                                                            L_CHICK
FGF1_CHICK
P19596;
                                                                                                       01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BIDDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST GROWTH FACTOR) (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH FACTOR).
FGF1 OR FGF-1.
                                                                                                                                                                                                                                                                                                                                                   BINDING
BINDING
SEQUENCE
                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                             Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0.262; III.HBGF.
PRINTS; PRO0.263; #IBGFFGF.
PROSITE; PS00.247; HBGF_FGF;
Growth factor; Mitogen; Vasc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X14232; CAA32448.1; -.
EMBL; M30641; AAA37618.1; -.
EMBL; U36459; AAC55269.1; -.
EMBL; U36457; AAC52969.1; JOINED.
EMBL; U36458; AAC52969.1; JOINED.
EMBL; U36458; AAC529097.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Characterization of the 1B promoter of fibroblast growth factor 1 and its expression in the adult and developing mouse brain.";
J. Biol. Chem. 271:30263-30271(1996).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENT IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.

-i- SUBUNIT: MONOMER.

-i- SUBUNIT: MONOMER.
                                                             Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERPRO; IPRO02209; ...
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
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Alam K.Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
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                                                                                                                                                                                                                                                30
                                                                                                                                                                                                                                                                       ـــر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a copyright is swiss institute of Bioinformatics and the EMBL European Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is by non-profit institutions as long as its content is the content in the copyright of the copyright institutions as long as its content is by non-profit institutions as long as its content is by non-profit institutions as long as its content is
                                                                                                                                                                                                                                                           YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKG
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D37360; D37360.
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MGI:95515; FGF1.
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155
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nilarity 68.2%;
Conservative
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                                                                                          (Chicken).
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   and
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116
17418
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  mature neurons
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HEPARIN (POTENTIAL):
HEPARIN (POTENTIAL):
8880E4FF0FBA4161 CRC6
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 express
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  the
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RESULT 13

FGF1_FIG

ID FGF1_PIG STANDANL.

AC P20002;

DT 01-FEB-1991 (Rel. 17, Created)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DT 15-JUL-1999 (Rel. 38, Last annotation update)

DE HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (AC "ROWTH FACTOR") (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH F ACTOR 1 PROTECTION (AFGF) (ALPHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 29
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BINDING
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; S63263; AAB19629.1; -.
EMBL; U31863, AAA80310.1; -.
EMBL; S63261; AAD13942.1; -.
PIR; S02639; S02639.
HSSP; P05230; 2AMM.
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a copyright the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for the statement is not removed. Usage by and the content are statement in the statement is not removed.
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"Endothelial ceil growth factors in embryonic and adult chick brare related to human acidic fibroblast growth factor.";

EMBO J. 7:959-962(1988).

-!- FUNCTION: THE HEBARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
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Martin G.R., Han J.K
Submitted (JUL-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
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MISCELLANEOUS: THIS
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88296438.
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1131143-1154(1991).
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17322 MW;
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HEPARIN (POTENTIAL);

8EDB70545E2B4365 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 153; DB 1;
Pred. No. 1.5e-13;
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                                                                                                                                                               3F-1) (ACIDIC FIBROBLAST
GROWTH FACTOR)
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factor.";
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Sus.
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RESULT 14
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Best Local Similarity
Matches 29; Conser
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MEDLINE; 89231704.

Quinkler W., Maasberg M., Bernotat-Dani Sharma H.S., Schaper W.;

"Isolation of heparin-binding growth fa canine hearts.";

Eur. J. Biochem. 181:67-73(1989).

-i- FUNCTION: THE HEPARIN-BINDING GROWT IN VIVO AND ARE POTENT MITOGENS FOR VITRO. THERE ARE DIFFERENCES IN THE CONCENTRATION OF THESE 2 GROWTH FAC.

-i- SUBUNIT: MONOMER.

-i- MISCELLANEOUS: THIS PROTEIN BINDS H
                                           FGF1_HUMAN STANDARD,

P05230; P07502;

13-AUG-1987 (Rel. 05, Created)

13-AUG-1987 (Rel. 05, Last sequence update)

15-JUL-1999 (Rel. 38, Last annotation update)

15-JUL-1999 (Rel. 38, Last annotation update)

HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (HBGR-1)

HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (HBGR-1)
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BINDING
CONFLICT
CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schmidt M., Sharma H.S., Schott R.J., Schaper W.;
"Amplification and sequencing of mnNa encoding acidic growth factor (aFGF) from porcine heart.",
Biochem. Biophys. Res. Commun. 180:853-859(1991).
   FGF1 OR FGFA.
Homo sapiens (Human
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X60317; CAA42869.1; PIR; S03954; S03954.
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SEQUENCE
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                                                                                                                                                                                                                                                                                       1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIK
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PF00167; FGF; 1.
TE; PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P05230;
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                     (Human)
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17103
Chordata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascularization;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENDOTHELIAL CELL GROW-
HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
C -> S (IN REF. 2).
R -> Y (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                                       Score 148; DB 1;
Pred. No. 6.7e-13;
3; Mismatches 11
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       Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                             AE853B0A92F9ABF4 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    It is produced through a collaboration
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       Vertebrata;
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                                                                         (ACIDIC FIBROBLAST
H FACTOR) (ECGF-
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       Euteleostomi;
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       Science
[2]
                                                                                                                                                                  MEDIINE: 90365758.

Crumley G., Dionne C.A., Jaye M.;

The gene for human acidic fibroblast growth facto
upstream exons alternatively spliced to the first

"Income property of the property of the first
"Income property of the property of 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jaye M., Howk R., Burgess W., Ricca G.A., Chiu: O'.Brien S.J., Modi W.S., Maciag T., Drohan W.N., "Human endothelial cell growth factor: cloning, and chromosome localization."; Science 233:541-545(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE;
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                                                                                                                                                                                                                                                                                                                                     Zhao X.M., Yeoh T.K., Hiebert M., Fr. "The expression of acidic fibroblast growth factor-1) and cytokine genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang W.P., Quick D., Balcerzak S.P., Needleman S.W., Chiu I.M. "Cloning and sequence analysis of the human acidic fibroblast factor gene and its preservation in leukemia patients."; Oncogene 6:1521-1529(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chiu I.M., Wang W.P., Leht "Alternative splicing gene heparin-binding growth fac Oncogene 5:755-762(1990).
                    SEQUENCE
                                                   Biochemistry
                                                                                                                                                                                                                                               SEQUENCE OF 1-40 F
MEDLINE; 90365758.
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MEDLINE; 90265618.
                                                   MEDLINE; 86296647.

**Restriction**

**Manan class 1 heparin-binding growth factor: structure to bovine acidic brain fibroblast growth factor.";

**Eichemistry 25:4097-4103(1986).
                                                                                                                                            SEQUENCE OF 16-155.
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86295741.
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SEQUENCE OF 16-155.

MEDLINE; 87048871.

Gautschi-Sova P., Mueller T.,

"Amino acid sequence of human
Biochem. Biophys. Res. Commun.
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1H-NMR assignment and solution
growth factor activated by inosi
J. Mol. Biol. 242:81-98(1994)
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EMBL;
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Blaber M., Disalvo J., Thomas K.A.;
"X-ray crystal structure of human a
Biochemistry 35:2086-2094(1996).
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Gautschi P., Frater-Schroeder M., Boehlen
"Partial molecular characterization of en
human brain: acidic and basic fibroblast
FEBS Lett. 204:203-207(1986).
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Biochem. Biophys.
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Solution structure of acidic
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SIMILARITY: BEI
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X51943;
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                                       an
                                      non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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inositol hexasulfate.";
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acidic fibroblast
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human brain-derived
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01-MAR-1989 (Rel. 10, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Cartor 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST HEPARIN-BIDING GROWTH FACTOR ) (PROSTATROPIN) (ENDOTHELIAL CELL GROWTH FACTOR BETA AND ALPHA CHAINS) (ACIDIC EYE-DERIVED GROWTH FACTOR II) (EDGF
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3L; X65778; A23553.
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                  TISSUE-RETINA;
MEDLINE; 89083506.
Halley C., Courtois Y., Laurent M.;
"Nucleotide sequence of bovine acidic
                                                                                                            Eukaryota; Metazoa;
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M30491;
M60515;
M60516;
M23087;
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                           16:10913-10913(1988).
                                                                                                  Cetartiodactyla;
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HEPARIN (POTENTIAL).
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TISSUE-RETINA;

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Science 251:90-93(1991).

-!- FUNCTION: THE HEPARIN-BINDING GROPIN VIVO AND ARE POTENT MITOGENS FOR VITRO. THERE ARE DIFFERENCES IN THE CONCENTRATION OF THESE 2 GROWTH FF.

-!- SUBUNIT: MONOMER.

-!- SUBUNIT: MONOMER.
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Science 2
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MEDLINE; 89231704.

Quinkler W., Massberg M., Bernotat-Da
Sharma H.S., Schager W.;

"Isolation of heparin-binding growth
canine hearts.";
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Boehlen P., Esch F., Baird &
Boehlen P., Esch F., Baird &
"Acidic fibroblast growth fa
amino-terminal sequence and
EMBO J. 4:1951-1956(1985).
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Proc. Natl. Acad. Sci. U.S.A. 83:7216-7220(1986).
                                                                                                                                                                                                                                                              SEQUENCE OF 1-18 FROM Philippe J.M., Renaud Submitted (JUL-1992) t
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     *RAIterio J., Halley C., Brou C., Soussi T., Courtois "Characterization of a bovine acidic FGF cDNA clone expression in brain and retina.";
FEBS Lett. 242:41-46(1988).
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[9]
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MEDLINE; 86261806
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Disalvo J., Thomas K.;
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MEDLINE; 87016918
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Alterio J., Halle
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Hsu B.T., Rees D.C.
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THAN DOES BFGF. SIMILARITY: BEL
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86070224.
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                                PROTEIN BINDS HEPARIN,
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he EMBL/GenBank/DDBJ da
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THE HEPARIN-BINDING
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 EMBL; M13439; AAA30516.1; EMBL; X13221; CAA31610.1; EMBL; X14032; CAA32192.1; EMBL; M35608; AAA30517.1; EMBL; M35608; CAA47063.1; EMBL; M97660; AAA30563.1; EMBL; M97661; AAA30564.1; EMBL; M97661; AAA30564.1; EMBL; M97661; AAA30564.1; EMBL; M97661; AAA3054.1; EMBL; M97661; AAA3054.3; EXCOLUBER, BAZ4477. EMB, 
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PIR; C2504
PIR; A2447
PIR; B2466
PIR; S0210
PDB; 1BAR;
PDB; 1AFC;
INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Growth factor 3D-structure.
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
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INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
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HEPARIN-BINDING GROWTH FACTOR 1.
ENDOTHELIAL CELL GROWTH FACTOR ALPHA
ACETYLATION.
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CRC64;
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Query Match Best Local S Matches 28

ch 61.18; l Similarity 65.18; 28; Conservative

Score 146; DB 1; Pred. No. 1.3e-12; 5; Mismatches 10

Length 155;

Indels

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Title:
Perfect score:
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Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
 SPTREMBL_14:*
1: sp_archea:*
2: sp_bacteria:
3: sp_fungi:*
4: sp_human:*
5: sp_inverteb:
6: sp_mammal:*
7: sp_mhc:*
8: sp_organel:
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:
12: sp_vtrus:*
13: sp_verteb:
14: sp_unclass
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239
1 YCKNGGFFLRIHPD
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Gapop 10.0 , Gapext 0.5
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sp_phage:*
: sp_plant:*
: sp_virus:*
: sp_virus:*
: sp_vertebrate:*
: sp_unclassified:*
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sp_fungi:*
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sp_mammal:*
sp_mhc:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

18 19	17 7			14				10			7	თ	U	4	w	N	,	Result No. So
76 74	7.5	0.5	82	82	84	95	8.5	109	109	109	118	156	156	203	212	238	239	Score
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243 212	208	252	127	78	196	206	146	70	60	59	59	. 114	114	101	170	130	196	Length DB
13 13	13	11	4	11	13	13	13	11	4	4	4	4	4	13	11	σ	4	BB
Q9W6A1 042407	Q9PVY1	960680	Q99517	035340	Q9YH31	Q9YGD8	Q07659	054837	Q16588	Q16089	Q9UBK1	000527	Q16443	P79706	Q60487	077767	P78443	ij
Q9w6a1 gallus gall O42407 gallus gall	Q9pvy1 xenopus lae	O89096 rattus norv	Q99517 homo sapien	O35340 mus musculu	Q9yh31 notophthalm	Q9ygd8 oncorhynchu	Q07659 gallus gall	O54837 mus musculu	Q16588 homo sapien	home	Q9ubk1 homo sapien	000527 homo sapien	Q16443 homo sapien	P79706 cynops pyrr	Q60487 cavia porce	077767 canis famil	P78443 homo sapien	Description

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53	53.5	53.5	53.5	54	54	54.5	55	55	55	55	56	56.5	57	57.5	59	59.5	60	60.5	62	64.5	64.5	66.5	67.5	70.5	70.5
22.2	22.4	22.4	22.4	22.6	22.5	22	23	23	23		23		23	24.1	24.7	24.9	25.1	25.3	25.9	27.0	27.0	٠		29.5	
257	1301	1092	321	1259	1259	150	1265	375	295	74	547	296	1542	320	192	200	784	432	245	519	216	194	123	121	121
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ALIGNMENTS

INTERPRO: IPRO0220 INTERPRO: IPRO0234 PFAM: PE00167: #GF PRINTS: PR00262: I PRINTS: PR00263: H PROSITE: PS00247: PRODOM: PD000831: SEQUENCE 196 AA;		RN [1] RP SEQUENCE FROM N.A. RX MEDLINE; 89184522. RA Prats H., Kaghad M., Prats A.C., Kl RA Liauzun P., Chalon P., Tauber J.P., RT "High molecular mass forms of basic Initiated by alternative CUG codons RL Proc. Natl. Acad. Sci. U.S.A. 86:18 RN [2] RP SEQUENCE OF 81-168 FROM N.A. RX MEDLINE; 93038590.	80L 844
09; 48; 11. F; 1. HBGFEGF. HBGF_FGF; 1. HBGF_FGF; 1. 21203 MW; D6B5447137E60343 CRC64;	Watson R., Anthony F., Pickett M., Lambden P., Masson G.M., Thomas E.J.; Thomas E.J.; "Reverse transcription with nested polymerase chain reaction shows expression of basic fibroblast growth factor transcripts in human granulosa and cumulus cells from in vitro fertilisation patients."; Biochem. Biophys. Res. Commun. 187:1227-1231(1992). EMBL; J04513; AAA52532.1; EMBL; S47380; AAD1383.1; EMBL; S47380; AAD1383.1;	, Prats A.C., Klagsbrun M., Lelias J.M., P., Tauber J.P., Amalric F., Smith J.A., Caput D.; s forms of basic fibroblast growth factor are ative CUG codons."; ci. U.S.A. 86:1836-1840(1989).	NARY; PRT; 196 AA. rel. 03, Created) rel. 103, Last sequence update) rel. 14, Last annotation update) LAST GROWTH FACTOR (BFGF).). Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.

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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
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01-NOV-1998 (TIEMBLIEL. 08, Last sequence update)
01-MAY-2000 (TIEMBLIEL. 13, Last annotation update)
BASIC FIBROBLAST GROWTH FACTOR (BFGF) (FGF-2) (HEPARIN-BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN) (PROSTATIC GROWTH FACTOR)
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Pred. No. 6.2e-23;
Mismatches 0;
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RA MOSCATELLIAN; 8/20905.

RA MOSCATELLIAN; 8/20905.

RT mMr 25,000 heparin-binding protein from guinea pig brain is a high RT molecular weight form of basic fibroblast growth factor.";

RT mCC. Natl. Acad. Sci. U.S.A. 84:5778-5782(1987).

CC. -!- FUNCTION: WIDE-SPECTRUM MITOGENIC, ANGIOGENIC, AND NEUROTROPHIC CC FACTOR. IMPLICATED IN A MULTITUDE OF PHYSIOLOGIC AND PATHOLOGIC CC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENSIS, WOUND HEALING, AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FOR CC MESENCHYME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION, PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL NERVOUS CC SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO CC STUDYNTI FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST CC ONE HEPARAN SULFATE (BY SIMILARITY).

CC -!- ALTERNATIVE PRODUCTS: AT LEAST TWO ISOFORMS; 18 KDA AND 25 KDA CLIFENATION SITES. BOTH FORMS ARE ACTIVE.

CC -!- FUM. THE N-TERMINAL OF ISOFORM ARE ACTIVE.

CC -!- FUM. THEN TERMINAL OF ISOFORM ARE ACTIVE.

CC -!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.

CC -!- FUM. THEN THE HUMAN SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY TO THE HUMAN SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY TO THE HUMAN SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY TO THE HUMAN SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY ALANGS-ACID SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY ALANGS-ACID SEQUENCE AS WELL AS ON THE BASIS OF SIMILARITY ALANGS-394.1; ALT_FRAME.

DR HSSP; P09038; ZEFH.

DR HSSP; P090167: EGF: 1.
                                                                                                                                                                                                     PFAM; PF00167; EGF; 1.

PRINTS; PR00262; ILIHBGF.

PRINTS; PR00263; HBGFFGF.

PROSITE; PR00247; HBGF PGF; 1.

Growth factor; Mitogen; Vascular
Alternative initiation; Methylat
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NON_TER
NON_CONS 1
INIT_MET DOMAIN NON_CONS
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CHAIN
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01-JUN-2000 (TriMBLrel. 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 2 (FGF-2) (FIBROBLAST GROWTH FACTOR, BASIC)
(BFGF) (HEPARIN:BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN)
(PROSTATIC GROWTH FACTOR) (FRAGMENTS).
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[3]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sommer A., Moscatelli D.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF N-TERMINUS, PARTIAL MEDLINE; 89273588.
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Eutheria;
     512225
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Rodentia;
                                                                                                                                                                                                           Vascularization; Heparin-binding; Methylation; Phosphorylation;
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                                                25 KDA
18 KDA
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Hystricognathi; Caviidae;
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factor.";
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BASIC FIBROBLAST
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01-NOY-1996 (TIEMBLrel. 01, Created)
01-NOY-1996 (TIEMBLrel. 01, Last sequence update)
01-MAY-2000 (TIEMBLrel. 13, Last annotation update)
BASIC FIBROBLAST GROWTH FACTOR (FRAGMENT).
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01-MAY-1997 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
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                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Serial expression of the genes in a mesodermalizing ecearly Cynops gastrula.";
Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                          Q16443
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HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Suzuki A.S., Tabata
Kaneda T.;
    SEQUENCE
                                                                                     Homo sapiens (Human)
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NGGFFLRIHPDGRVDGVREKTDPHIKLQLQAEDRGVVSIKGV
                                                                                                                                                                                                                                                                                                                               . Similarity 86. 39; Conservative
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                                       Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
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95.2%;
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CELL ATTACHMENT SITE (POTENTIAL).
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HEPARIN (BY SIMILARITY).
METHYLATION (MONO- OR DI-).
METHYLATION (MONO- OR DI-).
METHYLATION (MONO- OR DI-).
PHOSPHORYLATION (BY SIMILARITY).
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Pred. No. 1.1e
3; Mismatches
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Pred. No. 1.4e-19;
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ATTACHMENT SITE (POTENTIAL).
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Q9UBK1;
Q9UBK1;
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01-MAY-2000
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SEQUENCE 114 1.
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O00527;
O1-JAN-1998 (TIEMBLIGH. 05
O1-JAN-1999 (TIEMBLIGH. 05
O1-MAY-2000 (TIEMBLIGH. 15
BASIC FIBROBLAST GROWTH FF
FGF-2 OR FGF2.
                                                                                                                                                                                                                                                                                                                                                 Handschug K., Archoukieh E., Glaeser C.; "Mutations in the 5' untranslated region transition G to'A on position 19 and tran 97.";
                                                                                                                                                                                                                                                                                       EMBL; AJ250952; CAB61690.1; HSSP; P09038; 19FF.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Handschug K., Glaeser C.; "Polymorphism in the 5' untranslated region of transition (79 bp upstream of the first CTG oc Submitted (MAY-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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HSSP; P09038; 1BFF.
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Gonzalez A.M., Florkiewicz E., Shah N.;
"Basic fibroblast growth factor gene expression.";
Ann. N. Y. Acad. Sci. 638:109-126(1991).
                                                                                                                                                                                                                                                                                                                              Submitted (NOV-1999) to the
                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-BLOOD;
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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TISSUE-BLOOD;
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                                                                                                                          1 YCKNGGFFLRIHPDGRVDGVREKSDPH
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                                                                                                           YCKNGGFFLRIHPDGRVDGVREKSDPH
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27; Conserv
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27; Conservative
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llarity 100.0%;
Conservative
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114
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Pred. No.
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Best Local S
Matches 21
           Q16588;
Q1-NOV-1996
01-NOV-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

MEDLINE; 94059734.

Zhao X.M., Yeoh T.K., Hiebert M., Frist W.H., Miller G.G.;

"The expression of acidic fibroblast growth factor (heparifyrowth factor-1) and cytokine genes in human cardiac allog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                         INTERPRO; IPRO02209; -. PFAM; PF00167; FGF; 1. NON_TER 59 59
                                                                                                                                                                                                                                                                                                                                                                                         Transplantation 56:1177-1182(1993).
EMBL; S67294; AAB29059.1; -.
HSSP; P05230; ZAXM.
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nucleic Acids Res. 21:489-495(1993).
EMBL; L01487; AAA52447.1; -
EMBL; L01485; AAA52425.1; -
INTERPRO; IPRO02209; -
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Myers R.L., Chiu I.M.,
"Cloning of two novel forms of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
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21; Conservative
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Metazoa; Chordata; C
Metazoa; Primates; C
           (TrEMBLrel.
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                                                               PRELIMINARY;
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70.4%;
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70.08;
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           21,
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FACTOR (
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O54837;
O1-JUN-1998 (Tremblrel. 06, C
O1-JUN-1998 (Tremblrel. 13, L
O1-MAY-2000 (Tremblrel. 13, L
FIBROBLAST GROWTH FACTOR-1 (F
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J. Exp. Med. 175:1073-1080(1992).
EMBL; S67292; AAB39058.1; -
EMBL; X65779; CAA46662.1; -
EMBL; X65779; CAA46662.1; -
HSSP; P05230; 2AXM.
INTERPRO; IPRO02209; -
PFAM; PF00167; FGF; 1
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SEQUENCE
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Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases
EMBL; AF013926; AAB94020.1; -.
HSSP; P05230; ZAXM.
INTERPRO; IPR002209; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse).
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Eukaryota; Motazoa; Rodentia;
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HOMO sapiens (Human).
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MEDLINE; 92202857.
Li Y.L., Kha H., Golden
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"The expression of aci
growth factor-1) and
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                             YCKNGGFFLRIHPDGRVDGVREKSDPH
                                                                                                                                                                                                              ; PF00167; FGF;
TER 70
ENCE 70 AA; 7
YCSNGGHFLRILPDGTVDGTRDRSDQH
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19; Conserv
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nilarity 70.4%;
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6697
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acidic fibroblast growth factor (heparin-binding
nd cytokine genes in human cardiac allografts and
                                                                                                                    45.6%;
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(FRAGMENT).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Migchielsen A.A.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
    70
                                                 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109;
No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
                                                                                                                    . 8e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 4;
.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                    11;
-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        generated by alternate
                                                                                              <u>ن</u>
                                                                                                                                                                                                                   CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                           Length
                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goetzl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus
                                                                                           Gaps
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Best Local Similarity
Matches 23; Conser
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INTERPRO: IPRO02348; -.
PEAM; PF00167; FGF; ILHBGF.
PRINTS: PR00267; ILHBGF_FGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
                                                                                                                                                                                                                                       Q9YGD8;
01-MAY-1999
01-MAY-1999
01-JUN-2000
mammalian vertebrate: continuous expressic
fiber hyperplasia.";
Biochim. Biophys. Acta 1443:305-314(1998).
EMBL; Y16850; CAA76422.1; -.
EMBL; P09038; IBFF.
INTERPRO; IPR001064; -.
INTERPRO; IPR001064; -.
INTERPRO; IPR002348; -.
                                                                                                                                                                                                              FGF6.
                                                                                                                                                                                                                         01-MAY-1999 (TIEMBLIEL 1
01-MAY-1999 (TIEMBLIEL 1
01-JUN-2000 (TIEMBLIEL 1
FIBROBLAST GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; (
Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q07659;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
                                                                                                                                                                       Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M95706; AAA48616.1; -. EMBL; X56804; CAA40139.1; -. HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Borja A.Z., Zeller R., Meijers C.;
"Expression of alternatively spliced bFGF first coding antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
                                                                                                                                                                                                                                                                                      ggygd8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 52-85 FROM N.A. MEDLINE; 90382254.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE; 93246053.
                                                                                                "Identification of a fibroblast
                                                                                                                            MEDLINE;
                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                            Protacanthopterygii;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Development 109:387-393(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FIBROBLAST GROWTH FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q07659
                                                                                                                                                                                                                                                                                                                                                  35
                                                                                                                                                                                                                                                                                                                                                              GGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                  GVLWERVRPDERVSAM-----
                                                                                                              E; 99096461.
P.Y.;
                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Å,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              16182 MW; A7CB97BCB456E247 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                           41.2%;
                                                                                                                                                            Salmoniformes; Salmonidae; Oncorhynchus
                                                                                                                                                                                                                      10, Created)
10, Last sequence update)
14, Last annotation update)
NR 6-RELATED PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shohat
                                                                                                                                                                                                                                                                                                                                                  -VKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                4.
                                                                                                                                                                                                                                                                                                                                                                                                Score 98.5; Di
Pred. No. 3.5e
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi;
; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                        PRT;
                                                                                      growth factor 6 s expression of F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H., Ziv T.;
mesoderm induction
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                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                               DB 13;
8.5e-05;
hes 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                      FGF6
                                                                                                                                                                                                                                                                                                                                                  83
                                                                                                 (FGF6)
                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                      F6) gene in a non-
accompanies muscle
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                                                                                                                                                                                                                                                                                                                                                                                                                        146;
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RESULT

Q9YH31

ID V99

AC Q9

DT DT 01

DT 01

OC DE P

RN RP RN FR C

RR RT C

RR 
     RR OCC GREET DAC
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035340
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Best Local S
Matches 20
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Best Local S
Matches 20
                                                                                                                                                                           O35340 PRELIMINARY;
O35340;
O1-JAN-1998 (TrEMBLrel. 05, C
O1-JAN-1998 (TrEMBLrel. 05, I
O1-MAY-2000 (TREMBLrel. 13, I
FIBROBLAST GROWTH FACTOR 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              O9YH31 PRELIMINARY; PRT; 196 AA.
O19YH31;
O1-WAY-1999 (TrEMBLrel. 10, Created)
O1-MAY-1999 (TrEMBLrel. 10, Last sequence update)
O1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
PUTATIVE FIBROBLAST GROWTH FACTOR-4.
                                          Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00262; IL1HBGF.

PRINTS; PR00263; HBGFFGF.

PROSITE; PS00225; CRYSTALLIN BETAGAMMA; UNKNOWN_1.

PROSITE; PS00247; HBGF_FGF; 1.

PRODOM; PD000831; -; 1.

SEQUENCE 196 AA; 22033 MW; AC4688CD989C6EAF CF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PRO0262; TL1HBGF.
PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00225; HSGFFGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 206 AA; 23375 MW; BB883328F17EB6E4 CR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U76998; AAC98812.1; HSSP; P09038; LBFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Notophthalmus viridescens (Eastern newt) (Triturus viridescens).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom:
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae;
SEQUENCE FROM N.A.
                                                                                                                                FGF12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPR001064; -.
INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
INTERPRO; IPR002348; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Notophthalmus.
                                                                                                                                                   FIBROBLAST GROWTH FACTOR-RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Putative Newt Fibroblast Growth Factor-4."; submitted (OCT-1996) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                            77
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                                                                                                                                                                                                                                                                                                                                                              14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 YCKNG-GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                      YCNVGIGFHLQVLPDGRIHGMHSES-RYSLLEISPVERGVVCMFGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YCKNG-GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YCNAGIGFHLQVLPDGRINGVHNENQ-YSLIEISTVERGVVSLYGV 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 43.5
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 84; DB
Pred. No. 0.00
9; Mismatches
                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9,
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Pred.
                                                                                                                                                                                                                                                                                                           PRT;
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                                                                                                                                                   PROTEIN FGF-12B) (FRAGMENT).
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                                                                                                                                                                                                                                                                                                           78
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0.00014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 13;
0.0034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 196;
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                                                                                                                                                                                                                                                                                                                                                                                                                                            121
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Page 6
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RESULT 15
Q99517
ID 0799517
AC Q99517
AC Q99517
DT 01-MAY
DT 11-MAN
RA COulie.
RA Birnbal
RA Coulie.
RA Birnbal
RA Coulie.
RA Birnbal
RH HSSP;
DR HSSP;
DR HSSP;
DR HSSP;
DR FFAM;
DR FFAM;
DR FFAM;
DR FFAM;
DR FFAM;
SEQUENON_TEE
FT NON_TEE
FT
Search completed: November 9, 2000, 15:39:30 Job time: 607 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 34.3%; Score 82; DB 11; Length 78; Best Local Similarity 37.5%; Pred. No. 0.0021; Matches 15; Conservative 11; Mismatches 14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J. Mol. Evol. 0:0-0(0).

EMBL; Z70276; CAA94240.1; -.

HSSP; P03968; LAEC.

INTERPO,: IPR002209; -.

PFAM; PF00167; FGF; 1.

PROSTITE; PS00247; HBGF_FGF; 1.

NON_TER 1 1

NON_TER 127 127

SEQUENCE 127 AA; 14478 MW; D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q99517
Q99517;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Murine FGF-12 and FGF-13: expression in embryonic nervous system, connective tissue and heart.";
Mech. Dev. 64:31-39(1997).
EMBL; AF020/39; AAB71608.1; -.
HSSP; P09038; 1BFF.
MGD; MGI:109183; Fgf12.
INTERPRO; IPR002209; -.
FFAM; PF00167; FGF; 1.
NON_TER 78 AA; 8646 MW; AE681A7E18E80132 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
FIBROBLAST GROWTH FACTOR 12 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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Hartung H., Feldman B., Lovec H., Coulier F., Birnbaum D.,
Goldfarb M.;
                                                                                                                                                                 6 GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV 45 |:||::||| ::|: : | | ||:|:|| || 7 GYFLQMHPDGTIDGTKDENSDYTLFNLIPVGLRVVAIQGV 46
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127 AA; 14478 MW; D97DCCA67A3F2F2C CRC64;
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R;Sommer, A.; Moscatelli, D.; Rifkin, D.B. Biochem. Biophys. Res. Commun. 160, 1267-1274, A;Title: An amino-terminally extended and post- A;Reference number: A32484; MUID:89273588 A;Accession: A32484 A;Status: preliminary; nucleic acid sequence no A;Molecule type: mRNA A;Residues: 1-125 <som></som>	ALIGNMENTS RESULT 1 A32484 basic fibroblast growth factor precursor, 25K - guinea pig (fragments) C;Species: Cavia porcellus (guinea pig) C;Date: 20-Oct-1989 #sequence_revision 20-Oct-1989 #text_change 15-Jun-1996	30 52 45.2 267 1 3 31 50 43.5 216 2 3 32 50 43.5 216 2 3 33 49 42.6 202 1 7 34 47 40.9 206 2 3 35 46.5 40.4 181 2 7 36 46.5 40.4 182 2 7 37 46.5 40.0 182 2 7 38 46 40.0 944 2 7 39 45 39.1 194 2 7 41 42 39.1 194 2 8 42 39.1 194 2 8 43 39.1 194 2 1 44 45 39.1 194 2 1 45 39.1 194 2 1 47 48 39.1 194 2 1 48 39.1 194 2 1 49 45 39.1 194 2 1 40 45 39.1 194 2 1 41 45 39.1 237 2 1
<pre>kin, D.B. 0, 1267-1274, 1989 10ed and post-translationally modified 39273588 id sequence not shown; not compared with</pre>	ALIGNMENTS ecursor, 25K - guinea pig (fragments) a pig) ision 20-Oct-1989 #text_change 15-Jun	TYHUF5 T32475 JC5972 TVMSHS TVMSHS TVMSHS 174268 H72853 H72853 H72869 H73112 D46289 D46289 D46289 D46289 D46289 D46289 D76722 B71612
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R;Winkles, J.A.; Friesel, R.; Alberts, G.F.; Janat, M.F.; Liau, G. Am. J. Pathol. 143, 518-527, 1993
Am. J. Pathol. 143, 518-527, 1993
A;Title: Elevated expression of basic fibroblast growth factor in an immo A;Reference number: 146711; MUID:93343209
A;Accession: 146711
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Gross-references: GB:L12034; NID:g165014; PIDN:AAA31248.1; PID:g165015
C;Superfamily: fibroblast growth factor fibroblast growth factor - rabbit (fragment) C; Species: Oryctolagus cuniculus (domestic rabbit) C; Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 C; Accession: I46711
R; Winkles, J.A.; Friesel, R.; Alberts, G.F.; Janat, R; Winkles, J.A.; Friesel, R; Winkles, J.A.; Friesel, R; Winkles, J.A.; Friesel, R; Winkles, J.A.; P; Winkles, Winkles RESULT 146711 Q Q 밁 Query Match Best Local S Matches 21 Matches Query Match Best Local : Local Similarity nes 21; Conserv 1 SNNYNTYRSRKYSSWYVALKR 21 21; Similarity 100 21; Conservative Conservative 100 100.0%; Score 115; DB 2 100.0%; Pred. No. 7e-10; tive 0; Mismatches .08; 0 Score 115; DB 2; Pred. No. 7.6e-10; ; Mismatches 0; 2; 0; #text_change 16-Jul-1999 Length 137; Length 125; Indels Indels 0; 0; an immortalized Gaps Gaps 0 0: 1100

100 SNNYNTYRSRXYSSWYVALKR 120

SNNYNTYRSRKYSSWYVALKR 128

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A; Molecule type: mRNA
A; Residues: 35-154 <ELH>
A; Cross references: EMBL; X61697; NID:g56143; PIDN:CAA43863.1; PID:g56144
C; Superfamily: fibroblast growth factor
C; Keywords: growth factor
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A; Molecule type: protein
A; Molecule type: Protein
A; Residues: 1-146 <SIM>
C; Superfamily: fibroblast
C; Keywords: growth factor;
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A;Title: Nucleotide sequence of rat basic A;Reference number: S00876; MUID:88262516
A;Accession: S00876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C.Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 16-Jul-1999
C.Accession: A31674; S00876; S24309
R.Shimasaki, S.; Emoto, N.; Koba, A.; Mercado, M.; Shibata, F.; Cooksey, K.; Baird, A.;
Biochem. Biophys. Res. Commun. 157, 256-263, 1988
A;Title: Complementary DNA cloning and sequencing of rat ovarian basic fibroblast growth A;Reference number: A31674; MUID:89061721
A;Accession: A31674
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A:Accession: S24309
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A; Residues: 1-154 <KUR>
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R;Kurokawa, T.; Seno, M.; Igarashi, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-154 <SHI>
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S00185
R;Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.;
FEBS Lett. 224, 128-132, 1987
A;Title: Primary structure of ovine pituitary basic fibroblast growth factor.
A;Reference number: S00185; MUID:88055577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    basic fibroblast growth factor precursor - \ensuremath{\mathrm{N;Alternate}} names: bFGF
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                                                                                                                                                                                                                                                                                                                                              Status: preliminary; translation not shown
                                                                Matches
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Best Local
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1 SNNYNTYRSRKYSSWYVALKR 21
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Y.; Shiu, R.P.C.
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A; Status. File. mRNN, A; Shatus type: mRNN, A; Molecule type: mRNN, A; Molecule type: mRNN, A; Molecule type: mRNN, A; Residues: 1-154 < HEB>
A; Residues: 1-154 < HEB>
A; Cross-references: GB: M30644; NID: g193296; PIDN: AAA37621.1; PID: g309239
A; Cross-references: GB: M30644; NID: g193296; PIDN: AAA37621.1; PID: g309239
                                                                                                                                                                                                                                                            A;Reference number: A37360; MUID:90201563
                                                                                                                                                                                                                                                                                                                         R; Hebert, J.M.; Basilico, C.; Goldfarb, M.; Dev. Biol. 138, 454-463, 1990
                                                                                                                                                                                                                                                                                                                                                                     basic fibroblast growth factor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                      A; Title: Isolation of cDNAs
                                                                                                                                                                                                                                                                                                                                                                   C; Accession:
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                                                                          Matches
                                                                                                Query Match
Best Local :
108 SNNYNTYRSRKYSSWYVALKR 128
                                                                                            Local
                                1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                          Similarity
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                                                                          Conservative
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Pred. No. 8.6e-10;
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A.Molecule type: protein
A.Residues: 16-35 <BER>
R.Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin,
Mol. Cell. Endocrinol. 49, 189-194, 1987
A.Title: Isolation and partial characterization of bas
A.Reference number: &61551; MUID:87162856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 3-157 <AB2>
R;Milner, P.G.; Li, Y.S.; Hoffman, R.M.; Kodner, C.M.; Siegel, N.R.; Deuel, T.F.
Blochem. Blophys. Res. Commun. 165, 1096-1103, 1989
A;Title: A novel 17 kD heparin-binding growth factor (HBGF-8) in bovine uterus: purif
A;Reference number: A33784; MUID:90121211
                                                                                                                                                                                                                                                                                               R;Bertolini, J.; Hearn, M.T.W.
Mol. Cell. Endocrinol. 51, 187-199, 1987
A;Title: Isolation, characterisation and
                                                                                                                                                                                                                               A; Reference number: A61550; A; Accession: A61550
                                                                                                                                                                                                                                                                                                                                                                                                A; Note: demonstration of a possible alternative initiator or
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 3-157 < ABR>
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C;Date: 13-Aug-1986 #sequence_revision 02-Jun-1995 #text_change 24-Nov-1999
C;Accession: A;24663; A;32878; A3784; A61550; A61551; A60310; A61094; A01386; A60316; R;Abraham, J.A.; Mergia, A.; Whang, J.L.; Tumolo, A.; Friedman, J.; Hjerrild, K.A.; G Science 233, 545-548, 1986
Science 233, 545-548, 1986
A;Title: Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic A;Reference number: A94290; MUID:86261806
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of basic fibroblast growth

factor

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A;Reference number: A60310; MUID:8713165
A;Recession: A60310
A;Rolecule type: protein
A;Residues: 23-35, 'X', 37-42 (JEN)
A;Residues: 23-35, 'X', 37-40 (Sen)
A;Reference number: A24819; MUID:86295737
A;Reference number: A24819; MUID:86295737
A;Contents: annotation
A;Reference number: A24819; MUID:86295737
A;Contents: annotation of fins form was blocked; the peptide composition matched what was Ricospodarowicz, D; Baird, A; Cheng, J.; Lui, G.M.; Esch, F.; Bohlen, P.
A;Reference number: A61944
A;Reference number: A61947
A;Referenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: protein
A; Molecule type: protein
A; Residues: 12-26 <BOH>
C; Comment: The acidic and basic fibroblast growth factors are the major endothelial-cell
ell types in vitro (although bFGF is 30-100 times more potent than aFGF in stimulating to C; Comment: This protein binds heparin more strongly than does aFGF.
C; Superfamily: fibroblast growth factor, uterine form #status predicted <MATI>
F; 1-157/Product: basic fibroblast growth factor, pituitary alpha form #status experiment
F; 12-157/Product: basic fibroblast growth factor, pituitary alpha form #status predicted
F; 33-157/Product: basic fibroblast growth factor, pituitary short form #status predicted
F; 23-157/Product: basic fibroblast growth factor, hepartic form #status experiment
F; 12-157/Product: basic fibroblast growth factor, hepartic form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
F; 27-157/Product: basic fibroblast growth factor, renal form #status experimental <MATI
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F; 27-157/Product: basic fibroblast g
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A:Residues: 27-35, 'X',37-43 <BAI>
A:Residues: 27-35, 'X',37-43 <BAI>
A:Residues: 27-35, 'X',37-43 <BAI>
A:Resperimental source: kidney
R:Bohlen, P.; Baird, A.; Esch, F.; Ling, N.; Gospodarowicz, D.
Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
A:Title: Isolation and partial molecular characterization of pituitary fibroblast A:Reference number: A22054; MUID:84298139
A:Accession: A22054
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A;Mclecule type: protein
A;Mcsidues: 27-35,'X',37-41 <UE3>
A;Experimental source: testes
A;Note: this form appears to be identical to the renal form
A;Ueno, N.; Baird, A; Esch, F.; Shimasaki, S.; Ling, N.; Guillemin,
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A; Title: Purification and partial characterization of
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111
                                                            1 SNNYNTYRSRKYSSWYVALKR 21
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Pred. No. 8.7e-10;
Mismatches 0;
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basic fibroblast growth factor - short-tailed opossum (Monodelphis of C;Species: Monodelphis dommestica
C;Species: Monodelphis dommestica
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-J
C;Accession: S31622
R;Kussewitt, D.F.; Sabourin, C.L.K.; Budge, C.L.; Ley, R.D.
submitted to the EMBL Data Library, September 1992
A;Description: Characterization of cDNA encoding basic fibroblast g1
A;Reference number: 531622
A;Accession: S31622
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-164 <KUJS>
A;Cross-references: EMBL: 215154
C;Superfamily: fibroblast growth factor
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A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-155 (KIM>
A; Cross references: 'GB:M18067; NID:g214177; PI
R; Kimelman, D.; Kirschner, M.
Cell 51, 869-877, 1987
A; Title: Synergistic induction of mesoderm by
A; Reference number: A29618; MUID:88052890
A; Accession: A29618
A; Molecule type: mRNA
A; Residues: 95-110,112-155 (KI2>
C; Superfamily: fibroblast growth factor
C; Keywords: growth factor
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basic fibroblast growth factor precursor, 22.5K form - human N;Alternate names: bgGF; fibroblast growth factor 2; prostatic growth factor; N;Contains: basic fibroblast growth factor, 18K form c;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 31-Jul-1989 * sequence_revision 31-Dec-1993 * text_change 16-Jul-1999 C;Accession: A32398; A61537; A26642; B32678; S00297; A54316; B54316; A33624; R;Prats, H.; Kaghad, M.; Prats, A.C.; Klagsbrun, M.; Lelias, J.M.; Liauzun, E Proc. Natl. Acad. Sci. U.S.A. 86, 1836-1840, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A, Title: The presence of fibroblast growth A; Reference number: A40117; MUID:89058621 A; Accession: A40117
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A:Experimental source: prostate R:Gimenez-Gallego, G.; Conn, G.; Hatcher, V.B.; Thomas, K.A. Biochem. Biophys. Res. Commun. 135, 541-548, 1986 A:Title: Human brain-derived acidic and basic fibroblast growth Reference number: A90122; MUID:86186784
                                                                                                                                                                                                    A;Status: preliminary
A;Molecule type: protein
A;Residues: 57-210 <FEI>
R;Story, M.T.; Esch, F.; Shimasaki, S.; Sasse,
Biochem. Biophys. Res. Commun. 142, 702-709, 1:
A;Title: Amino-terminal sequence of a large fo:
A;Reference number: A25824; MUID:87156686
                                                                                                                                               A; Molecule type: protein A; Residues: 57-77 <STO>
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A; Residues: 'XX', 86-88,'X',90-91,'X',93-95 <SH3>
A; Experimental source: C-Li21 hepatocellular carcinoma cell line
A; Note: sequence extracted from NCBI backbone (NCBIP:71595)
A; Note: B54316
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A;Molecule type: mRNA
A;Residues: 56-210 <ABR>
A;Rote: the authors translated the codon G
A:Rote: the authors translated the codon G
A:Rote: Tallow Whang, J.L.; Tumolo, A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Note: the authors translated the codon GAA for residue 108 as Gly R;Shimoyama, Y.; Gotoh, M.; Ino, Y.; Sakamoto, M.; Kato, K.; Hirohashi, S. Jpn. J. Cancer Res. 82, 1263-1270, 1991
A;Title: Characterization of high-molecular-mass forms of basic fibroblast growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R.Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Frie EMBO J. 5, 2523-2528, 1986
A;Title: Human basic fibroblast growth factor: nucleotide A;Reference number: S00297; MUID:87053817
A;Status: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Reference number: A54316; MUID:92091228 A; Accession: A54316
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A;Cross-references: GB:M27968; NID:g182562; PIDN:AAA52448.1; PID:g182563
R;Abraham, J.A.; Whang, J.L.; Tumolo, A.; Mergia, A.; Fiddes, J.C.
Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
A;Title: Human basic fibroblast growth factor: nucleotide sequence, geno
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FBBS Lett. 213, 189-194, 1987
A;Title: Cloning and expression of cDNA encoding human
A;Reference number: A26642; MUID:87162468
A;Accession: A26642
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A; Residues: 1-155 <AB2>
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A;Molecule type: mRNA A;Residues: 1-210 <PRA>
A;Cross-references: GB:J04513; NID:g183083; R;Shibata, F.; Baird, A.; Florklewicz, R.Z.
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form of basic fibroblast
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basic fibroblast growth factor - chicken C:Species: Gallus gallus (chicken) C:Date: 01-Dec-1993 #sequence_revision 1
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R;Gautschi, P.; Frater-Schroder, M.; Bohlen,
FEBS Lett. 204, 203-207, 1986
A;Title: Partial molecular characterization o
A;Reference number: A91364; MUID:86275260
A;Molecula - ***
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A; Residues: 39-53;65-88 <PAT>
A; Note: recombinant gene expr
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A; Residues: 54-210 <SOM>
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A; Reference number: '$42242;
A; Accession: $42242;
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A; Molecule type: protein
A; Residues: 65-102, '\x', 1
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20; Conser
#sequence_revision 18-Nov-1994
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C;Keywords: alternative initiators; angiogenesis; growth factor; heparin binding; F;1-210/Product: basic fibroblast growth factor, 22.5K form #status predicted <MAX: F;65-210/Product: basic fibroblast growth factor, 18K form #status predicted <MAT: F;82-86/Region: heparin binding #status predicted
E;171-174/Region: heparin binding #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source: granulosa cells R; Patry, V.; Bugler, B.; Amalric, F.; Prome FRENS Lett. 349, 23-28, 1994
A; Title: Purification and characterization A; Reference number: 346253; MUID:94320639
A; Accession: S46253
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A;Molecule type: protein
A;Molecule type: protein
A;Residues: 65-88,'x',90-98,'x',100 <GAU>
A;Residues: 65-88,'x',90-98,'x',100 <GAU>
R;Sommer, A; Brewer, M.T.; Thompson, R.C.; Moscat
Biochem, Biophys. Res. Commun. 144; 543-550, 1987
Enchant State of Auman basic fibroblast growth
                                                                                                                                                                                                                                                                                                   A:Start codon: CTG
C:Superfamily: fibroblast growth factor
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A:Cross-references: GDB:119910; OMIM:134920
A;Map position: 4q25-4q27
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A; Residues: 95-182 <RES>
A; Cross-references: GB:S47380; NID:9256535
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A;Residues: 54-71 <PAN>
R;Watson, R.; Anthony, F.; Pickett, M.; Lambden, P.; Masson, G.M.;
Blochem. Blophys. Reg. Commun. 187, 1227-1231, 1992
A;Title: Reverse transcription with nested polymerase chain reactic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Accession: I52267:
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Title: Multivalent ligand-receptor binding interactions in the fibroblas A;Reference number: A55784; MUID:94347757
1 SNNYNTYRSRKYSSWYVALKR 21
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16-Jul-1999

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A; Decles type: DNA
A; Molecule type: DNA
A; Residues: 95-128 <MIT>
A; Cross-references: EMBL: X56804; NID: g62855; PIDN: CAA40139.1; PID: g62856
A; Cross-references: EMBL: X56804; NID: g62855; PIDN: CAA40139.1; PID: g62856
                                                                                                                                        C;Accession: S54407
R;Isaacs, H.V.; Tannahill, D.; Slack, J.M.W.
Development 114, 711-720, 1992
Grap in the Xi
                                                                                                                                                                                                      embryonic fibroblast growth factor II - African clawed frog C;Species: Xenopus laevis (African clawed frog) C;Date: 06-Sep-1996 #sequence_revision 13-Mar-1997 #text_chc;Accession: $54407
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R;Mitrani, E.; Gruenbaum, Y.; Shohat, H.; Ziv, T.
Development 109, 387-393, 199
A;Title: Fibroblast growth factor during mesoderm induction in the early chick embryo.
A;Reference number: S23636; MUID:90382254
A;Accession: S23636
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Dev. Biol. 157, 110-118, 1
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R; Borja, A.Z.; Meijers, C.;
                                                                                    A; Title: Expression of a novel FG A; Reference number: $23595; MUID: A; Accession: $54407
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A; Residues: 1-187 <ISA>
A; Cross-references: EMBL: X62593;
C; Superfamily: fibroblast growth
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A;Accession: A48834
                         A; Molecule type: mRNA
A; Residues: 1-192 <ISA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Title: Expression of a novel FGF in the Xenopus embryo. A A; Reference number: S23595; MUID:92315916 A; Accession: S23595
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A; Residues: 1-189 <BOR>
A;Cross-references: EMBL:X62594; NID:g840919; PIDN:CAA44480.1; PID:g840920
                                                                  A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental source: embryo
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Matches 20
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Best I
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                                                                                                                 FGF in the Xenopus embryo. A new candidate inducing factor {\tt ID:92315916}
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Pred. No. 0.00
1; Mismatches
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factor
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Pred. No. 4e-09;
0; Mismatches
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0.0051;
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acidic fibroblast growth factor - pig (fragment) C;Species: Sus scrofa domestica (domestic pig) C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 C;Accession: JH0476; S20072 R;Schmidt, M.; Sharma, H.S.; Schott, R.J.; Schaper,
                                   ğ
                                                                                                                                                                                                                                                                                              R;Hall, J.A.; Harris, M.A.; Malark, M.; Mansson, P.E.; Zhou, J. Cell. Biochem. 43; 17-26, 1990
A;Title: Characterization of the hamster DDT-1 cell aFGF/HGBE A;Reference number: A60721; MUID:90270291
                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: heparin-binding growth factor 1
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 10-sep-1999 #sequence_revision 10-sep-1999
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A; Residues: 1-155 <HAL>
                                                                                                                                                                                                                                                      A; Status: not compared with conceptual translation
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A; Residues: 1-152 <SCH>
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                                                                                                                                                                                                                                                                                 A; Accession: A60721
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NHYNTYTSKKHAEKNWFVGLKK
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Pred. No. 0.02
7; Mismatches
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Pred. No.
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Pred. No. 0.022;
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0.0052;
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solution ibroblast growth factor 1 - rat acidic fibroblast growth factor 1
N;Alternate names: heparin-binding growth factor 1
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 16-Jul-1999
C;Accession: Sol4147
R;Goodrich, S.P.; Yan, G.C.; Bahrenburg, K.; Mansson, P.E.
Nucleic Acids Res. 17, 2867, 1989
A;Title: The nucleotide sequence of rat heparin binding growth factor 1 (HBGF-1).
A;Reference number: Sol4147
A;Accession: Sol4147
A;Accession: Sol4147
A;Accession: Sol4147
A;Rolecule type: mRNA
A;Residues: 1-155 <GOO>
A;Cross references: EMBL:X14232; NID:g56351; PIDN:CAA32448.1; PID:g56352
C;Superfamily: fibroblast growth factor
C;Keywords: growth factor; heparin binding
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Search completed: November 9, 2000, 15:31:53 Job time: 174 sec
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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   protein search, using sw model
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length: 2000000000
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FGFI_RAT
FGF8_CHICK
FGF8_HUVAN
FGF8_MOUSE
FGF5_MOUSE
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FGFF_MOUSE
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FGF2_SHEEP
FGF2_HUMAN
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FGF1_HUMAN
FGF1_BOVIN
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FGF1_PIG
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FGF4_CHICK
FGF1_CHICK
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	O54769 rattus norv	O43320 homo sapien		mycobact					P41444 autographa	P32228 swinepox vi	P48803 bos taurus	Q11184 caenorhabdi	
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TOPEZ, RABIT TOPEZ, RABIT TOPEZ, RABIT TOPEZ, RABIT TOPEZ, RABIT TOPEZ, LABIT TO PEAM, This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). Winkles J.A., Friesel R., Alberts G.F., Janat M.F., Liau G.; Winkles J.A., Friesel R., Alberts G.F., Janat M.F., Liau G.; "Elevated expression of basic fibroblast growth factor in an immortalized rabbit smooth muscle cell line."; Am. J. Pathbol. 143:518:527(1993). -!- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS. -!- SUBUNIT: MONOMER. -!- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY. AGENTS

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Query Match Best Local S Matches 21

Similarity

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Score 115; DB 1; Pred. No. 1.3e-10; Mismatches

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SEQUENCE
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"Isolation of cDNAs encoding four mouse FGF family members and
characterization of their expression patterns during embryogenes
Dev. Biol. 138:454-463(1990).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES
VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CONCENTRATION OF THESE 2 GROWTH FACTORS.

-i- SUBUNIT: MONOMER.

-i- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Growth
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PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MGD; MGI:95516; FGF2.
INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M30644; AAA37621.1;
PIR; C37360; C37360.
HSSP; P09038; 1BFF.
MGD; MGI:95516; FGF2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
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01-FEB-1996 (Rel. 33, Last annotation update)
01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
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                                                                                                                                                                                                                                                       SNNYNTYRSRKYSSWYVALKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 factor; Mitogen; Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                10
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115
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                                                                                   STANDARD;
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Chordata; Craniata; Vertebrata;
Rodentia; Sciurognathi; Muridae;
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          sequence
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HEPARIN (POTENTIAL).
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EMBL; M22427; AAA41210.1; EMBL; W72285.1; CAA30265.1; EMBL; U78079; AAC53225.1; EMBL; X61697; CAA43863.1; FMBL; X61697; CAA43863.1; FMR; A31674; A31674. HSSP; P09038; 1EFF
               Growth
PROPEP
CHAIN
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entities requires a license agreement (See http://www.isb-
or send an email to license@isb-sib.ch).
                                                                                                              INTERPRO: IPR002348; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF;
PROSITE; PS00247; HBGF_FGF; 1.
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                                                                                                                                                                                                                                                                                                      INTERPRO; IPRO02209; -.
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Kurokawa T., Seno M., Igarashi K.;
"Nucleotide sequence of rat basic fibroblast growth factor cDNA.";
Nucleic Acids Res. 16:5201-5201(1988).
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"Cooksey K., Baird A., Ling N.;

"Complementary DNA cloning and sequencing of rat ovarian basic fibroblast growth factor and tissue distribution study of its mRNA.";

fibroblast growth factor and tissue distribution study of its mRNA.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 92329546.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A Containing a unique 3' untranslated region."; chim. Biophys. Acta 1131.314-316(1992), chim. Biophys. Acta 1131.314-316(1992)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                usseini A.E.D., Paterson J.A., Myal Y., Shiu R.P.C., detection of the rat brain basic fibroblast growth
                                                              factor; Mitogen; Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97200905.
hi K.B.S., Jin Y.,
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Rodentia;
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H FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST
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TISSUE=BRAIN;
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plast growth factor-2
HEPARIN-BINDING GROWTH FACTOR 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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MEDLINE; 86016731.

ESCH F., Baird A., Ling N., Ueno N., Hill F., Denoroy L., Klepper R., Gospodarowicz D., Boehlen P., Guillemin R.;

"Primary structure of bovine pituitary basic fibroblast growth factor "Primary structure of bovine pituitary basic fibroblast growth factor (FGF) and comparison with the amino-terminal sequence of bovine brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Human basic fibroblast growth factor: nucleotide sequence, organization, and expression in mammalian cells."; Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
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01-FEB-1996 (Rel. 33, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN) [CONTAINS: KIDNEY-DERIVED GROWTH
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                                                                                                                    MEDLINE; 86095426.
Baird A., Esch F., Boehlen P., Ling N.,
"Isolation and partial characterization
factor from the bovine kidney: homology
factor.";
                                                                                                                                                                                                                                                                                                                                        growth factor.
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Eukaryota; Metazoa; (
Mammalia; Eutheria; (
                                                                                                                                                                                                                                                                                                             Biochem. Biophys.
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"Human basic fibroblast g
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                        SEQUENCE OF 21-40 TISSUE-KIDNEY;
                                                                                                 Regul. Pept. 12:201-213(1985).
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154 AA;
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                                                                                                                                      Gospodarowicz D.; of an endothelial cell growth with basic fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ueno N., Baird A., Esch F., Shimasaki S., Ling N., Guillemin R., "Purification and partial characterization of a mitogenic factor bovine, liver: structural homology with basic fibroblast growth
                                                                                                                                                                                                                                                                                                                PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
PROSITE; Mitogen; Vaso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Science 251:90-93(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Three-dimensional structures of acidic and basic fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: : BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VERTETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
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Rees D.C.;
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PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
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Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
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SEQUENCE
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PIR; S00185; S00185.
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MEDLINE; 88055577.
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SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN MISCELLANEOUS:
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European Bioinformatics Institute.
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Pred. No. 1.5e-1
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SEQUENCE OF 10-35.

MEDLINE; 86275260.

Gautschi P., Frater-Schroeder M., Bc
Gartial molecular characterization
human brain: acidic and basic fibrob
FEBS Lett. 204:203-207(1986).
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P09038;
01-NOV-1988
                                                                                                                                                                       "Cloning and growth factor
                                                                   initiated by alternative CUG
Proc. Natl. Acad. Sci. U.S.A.
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Rifkin D.B
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01-NOV-1988 (Rej. 09, Last sequence update)
01-NOV-1997 (Rej. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLAST GROWTH FACTOR) (BFGF) (PROSTATROPIN).
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EMBO J. 5:2523-2528(1986).
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Homo sapiens (Human)
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, Kaghad M., Pri
P., Chalon P.,
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HEPARIN (POTENTIAL).
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Pred. No. 1.5e-10;
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Boehlen P.;
on of endothelial cell mitogens
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SEQUENCE (
  the Europuse by modified
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                                                                                                                                                                                                                         spectroscopy.";
Biochemistry 35:13552-13561(1996).
-!- FUNCTION: THE HEPARIN-BINDING IN VIVO AND ARE POTENT MITOGEN VITRO. THERE ARE DIFFERENCES I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 91195368.
Zhang J., Cousens L.S., Barr P.J., Spi
Three-dimensional structure of human
a structural homolog of interleakin 1
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Ago H., Kitagawa Y., F
"Crystal structure of
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Eriksson A.E., Cou:
"Three-dimensional
factor.";
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MEDLINE; 87156686.
Story M.T., Esch F
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Moy F.J., Seddon A.P., Boomer and The Second Sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.; "Human brain-derived acidic and basic fibroblast growth factors: amino terminal sequences and specific mitogenic activities."; Biochem. Biophys. Res. Commun. 135:541-548(1986).
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s SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bioinformatics and the EMBI European Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is lifted and this statement is not removed. Usage by and i
                                                                                                                                                            FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIGGENIC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE
                                                                                                                        AFGF.
SIMILARITY: BELONGS
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., Komiya H., Chirino
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PFAM; PF00167; FGF; I.1HBGF.
PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF
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15-JUL-93.
15-JUL-93.
15-JUL-96.
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03-APR-96.
16-JUN-97.
31-JAN-94.
30-APR-94.
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CAA28028.1;
CAA28029.1;
CAA28029.1;
AAA52448.1;
AAA525533.1;
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DB 1;
4.2e-10;
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
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INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
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P12226;

Ol-OCT-1989 (Rel. 12, Created)

Ol-JAN-1990 (Rel. 13, Last sequence update)

Ol-NOV-1997 (Rel. 35, Last annotation update)

Ol-NOV-1997 (Rel. 35, Last annotation update)

HEPARIN-BINDING GEOWIH FACTOR 2 PRECURSOR (HBGF-2) (BASIC FIBROBLE GROWIH FACTOR) (BFGF).

FGF2 OR FGF-2.

Xenopus laevis (African clawed frog).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea;

Pipoidea;
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"The presence of fibroblast gr
as a natural mesoderm inducer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 88052890.

Kimelman D., Kirschner M.;

"Synergistic induction of 1
identification of an mRNA
  109
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A40117; A40117.
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ANNYNTYRSRKYSSWYVALKR
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                                                                                        Similarity
20; Conser
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95.2%;
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                                      21
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MISSING (IN REF. 2)
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C P48800;

T 01-FEB-1996 (Rel. 33, Created)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DT 01-FEB-1996 (Rel. 33, Last annotation update)

DE HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HB

DE GROWTH FACTOR) (BFGF).

FGF2 OR FGF-2.
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FGF2_MONDO
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Best Local
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PROSITE; PS00247; HBGE_FGF; L.

Growth factor; Mitogen; Vascularization; He
GROPEP 1 9 BY SIMILARITY

PROPEP 10 156 HEPARIN-BINDIY

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BINDING 117 120 HEPARIN (POTE
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HSSS; PO9038; IRFS
INTERPRO; IPRO02209; -
INTERPRO; IPRO02348; -
PFAM; PF00167; FGF; 1.
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF FGF; 1.
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KUSEWİLT D.F., Sabourin C.L.K., Sherburn T.E., Ley R.D.;

"Characterization of cDNA encoding basic fibroblast growth facto
re marsuplal Monodelphis domestica.";

DNA Cell Biol...3:549-554(1994).

-1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC
IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES

VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND

CONCENTRATION OF THESE 2 GROWTH FACTORS.
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01-FEB-1996 (Rei. 33, Created)
01-FEB-1996 (Rei. 33, Last sequence update)
01-NOV-1997 (Rei. 35, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 2 PRECURSOR (HBGF-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Monodelphis domestica (Short-tailed grey opossum).
Eukaryota; Metaroa; Chordata; Craniata; Vertebrata;
Mammalia; Metarheria; Didelphimorphia; Didelphidae;
                                                                                                                                                                                                                                                110
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                                                                                                                                                                                                                                                                           1 SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY? BELONGS TO THE HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
                                                                                                                                                                                                                                           SNNYNTYRSRKYSNWYVALKR 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: MONOMER
                                                                                                                                                                                                                                                                                                        l Similarity 95.;
20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BFGF) (PROSTATROPIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                         97.4%;
95.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALT_INIT.
                                                                                                                                                                                                                                                                                                        Score 112; DB Pred. No. 4.2e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                              HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
7E655FCC49BF1209 C
                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
HEPARIN-BINDING GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                             PRECURSOR (HBGF-2) (BASIC FIBROBLAST
                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156
                                                                                                                                                                                                                                                                                                                       DB 1;
.2e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Heparin-binding.
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                                                                                                                                                                                                                                                                                                                                     Length 156
                                                                                                                                                                                                                                                                                                                                                                                     CRC64
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RESULT 10

FGFA_X

ID FGFA_X

AC P48805

DT 01-FEB

DT 01-FEB

DT 01-FEB

DT 01-FEB

DT 01-FEB

CO FIBROB

DE FIBROB

DE FIBROB

CO ENKARY

OC Amphilo

CO Amphilo
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P09036; INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
  SEQUENCE FROM N.A.
MEDLINE; 92315916.
ISAACS H.V., Tannahill D
"Expression of a novel F
inducing factor for meso
specification.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Archosauria;
Gallus.
[1]
                                                                                                                                                                                                01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
01-FEB-1996 (Rel. 33, Last annotation update)
FIBROBLAST GROWTH FACTOR-4-I PRECURSOR (FGF-4-I) (HBGF-4-I) (EMBRYONIC FIBROBLAST GROWTH-FACTOR I) (XEFGF-1).
Xenopus laevis (African claved frog).
Xenopus laevis (African claved frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBI outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE; 93246053.
Borja A.Z., Zeller R., Meijers C.;
Borja A.Z., Zeller R., Meijers C.;
"Expression of alternatively spliced bFGF first coding antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BINDING
BINDING
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                           P48805;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS
                                                                                                                                                                                       Xenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   FGFA_XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROPEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112
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SUBUNIT: MONOMER.

MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SNNYNTYRSRKYSSWYVALKR 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SNNYNTYRSRKYSDWYVALKR 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S; PR00262; IL1HBGF.
S; PR00263; HBGFTGF; 1
TE; PS00247; HBGF_FGF; 1
h factor; Mitogen; Vascu
p 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M95707; AAA48617.1; -. P09038; IBFF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 95.: 20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30
119
158
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34 H
122 H
; 17374 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Chordata; Craniata; Vertebrata; Euteleostomi; Neognathae; Galliformes; Phasianidae; Phasiani
                           nill D., Slack J.M.W.;
wel FGF in the Xenopus embryo. A new candidate
mesoderm formation and anterpretation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TO THE HEPARIN-BINDING GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vascularization; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HEPARIN (POTENTIAL).
HEPARIN (POTENTIAL).
; 7B69B684C17F1816 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 111;
Pred. No. (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY. HEPARIN-BINDING GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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IN
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RESULT 11

FGFB_XENLA STANDARD; PRT; 192 AA.

ID FGFB_XENLA STANDARD; PRT; 192 AA.

AC P48806;

DT 01-FEB-1996 (Rel. 33, Created)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DT 01-FEB-1996 (Rel. 33, Last annotation update)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DT 01-FEB-1996 (Rel. 33, Last sequence update)

DC 01-FEB-1996 (Rel. 33, Created)

DC (FGF-4-II) (HBGF-4-II)

DC EMBRYONIC FIBROBLAST GROWTH FACTOR II) (XEFGF-II).

OS Xenopus laevis (African clawed frog).

OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
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Best Local S
Matches 12
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PFAM; PE00167; FGF; 1.
PRINTS; PR00263; HBGFFGF; 1.
PROSITE; PS00247; HBGFFGF; 1.
Growth factor; Mitogen; Signal.
SIGNAL ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Development 114:711-720(1992).

-!- FUNCTION: GOOD CANDIDATE FOR AN INDUCING FACTOR WITH POSSIBLE ROLES BOTH IN MESODERM INDUCTION AT THE BLASTULA STAGE AND IN THE FORMATION OF THE ANTEROPOSTERIOR AXIS AT THE GASTRULA STAGE.

-!- SUBCELLULAR LOCATION: SECRETED (PROBABLE).

-!- SUBCELLULAR LOCATION: SECRETED (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
SEQUENCE
            This SWISS-PROT entry is copyright. It is produced through a c between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                     Specification.";
Development 114;711-720(1992).

Pevelopment 114;711-720(1992).

PEUNCTION: GOOD CANDIDATE FOR AN INDUCING FACTOR WITH POSSIBLE FUNCTION: GOOD CANDIDATE FOR AN THE BLASTILLA STAGE AND IN THE FORMATION OF THE ANTEROPOSTERIOR AXIS AT THE GASTRULA STAGE.

PORMATION OF THE ANTEROPOSTERIOR AXIS AT THE GASTRULA STAGE.

PORMATION OF THE ANTEROPOSTERIED (PROBABLE).

SUBCELLULAR LOCATION: SECRETED (PROBABLE).
                                                                                                                                                                                                                                                                                                                           MEDLINE: 92315916.
Isaacs H.V., Tannahill D.,
"Expression of a novel FGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X62593; CAA44479.1;
HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopodinae;
                                                                                                                                                                                                                                                                                                             inducing factor for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERPRO; IPR002209; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             145
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12; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopus.
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; 21223 MW;
                                                                                                                                                                                                                                                                                                          ill D., Slack J.M.W.;

vel FGF in the Xenopus embryo. A new candidate
mesoderm formation and anteroposterior
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66
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FIBROBLAST GROWTH FACTOR-4-I.
AAE63D65E82AD1BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 69; DB 1;
Pred. No. 0.0014;
1; Mismatches
                                                                        There are no restrictions ong as its content is in
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                                                                                                                 EMBL outstation
                                                                                                                     a collaboration -
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RESULT 1
FGETIL PIG
ID FGETI
AC P200
DT 01-F
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Best Local
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HSSP; P09038; 1BFF;
INTERERO; IPR002209; -
INTERPRO; IPR002348; -
PFAM; PF00107; FGF; 1
                                                                                      entities
or send a
                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (FKHOPLING)
FGF1 OR FGF-1.
Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Craniata; Suidae;
     EMBL; X60317; CAA42869.1;
PIR; S03954; S03954.
HSSP; P05230; 2AXM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 22-41.

MEDLINE; 89231704.

Quinkler W., Massberg M., Bernotat-Danielowski S., Luethe N.,

Sharma H.S., Schaper W.;

"Isolation of heparin-binding growth factors from bovine, porcine and canine hearts.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1991 (Rel. 17, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST GROWTH FACTOR) (AFGF) (ALPHA-ENDOTHELIAL CELL GROWTH FACTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
SEQUENCE
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Schmidt M., Sharma H.S., Schott R.J., Schaper W.; "Amplification and sequencing of mRNA encoding ac growth factor (aFG) from porcine heart."; Biochem. Biophys. Res. Commun. 180:853-859(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Growth factor; Mitogen; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P20002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FGF1_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     150
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                                                                                                                                                                                                                                                                                                                                                                CONCENTRATION OF THESE SUBUNIT: MONOMER.
MISCELLANEOUS: THIS PRO
                                                                                                                                                                                                                                                                                                       THAN DOES BFGF.
SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                 . J. Biochem. 181:67-73(1989).
FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIGGENIC IN VIVO AND ARE POTENT MITTOGENS FOR A VARIETY OF CELL TYPES VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NNYNAYESRKYPGMYIAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAA4480.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                192 F
; 21903 MW;
                                                                                                                                                                                                                                                                                                                                                                   THIS PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60.0%;
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Pred. No. 0.00
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FIBROBLAST GROWTH FACTOR-4-II.
; 2B01B0BB8824E3B3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                   BINDS
                                                                                                                                                                                                                                                                                                                                                                   HEPARIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schaper W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BB
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                                                                                                                                                                                                                                                                                                                                                                   ALTHOUGH
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Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fibroblast
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                                                                                                                                                                                                                                                                                                                                                                   STRONGLY
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RESULT 13
FGF1_MESAU STANDARD;
ID FGF1_MESAU STANDARD;
AC P34004;

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Best Local
Matches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Growth factor; Mitogen; Vas
PROPEP 1. 15
CHAIN 16: >152
CHAIN 22: >152
CHAIN 24: 28
BINDING 24: 28
BINDING 113: 116
CONFLICT 31: 31
CONFLICT 39: 39
NON_TER 152: AA; 17103 M
  BINDING
BINDING
SEQUENCE
                                                                        PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                "Characterization of the hamster DDT-1 cell aFGF/HGBF-I gene and its modulation by steeroids.";

J. Cell. Biochem. 43:17-26(1990).

-i- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC PLIN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES I VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
                                                                                                                                     PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                                                           INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                               -!- SIMILARITY: BELO
PIR; A60721; A60721.
HSSP; P05230; 2AXM.
                                                                                                                 Growth factor;
                                                                                                                                                                                                                                                                                                                                                                    CONCENTRATION OF THESE 2 GROWTH FACTORS.
-!- SUBUNIT: MONOMER.
-!- MISCELLANDOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE; 90270291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mesocricetus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERPRO; IPRO02209; PFAM; PF00167; FGF; 1 PROSITE; PS00247; HBG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107 NHYNTYTSKKHAEKNWFVGLKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 NNYNTYRSRKYS--SWYVALKR
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                                                                                                                                                                                                                                                                                                                                                   THAN DOES BEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 28, Created)
(Rel. 28, Last sequence update)
(Rel. 38, Last annotation update)
) (Rel. 38, Last annotation update)
DING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HBGF_FGF; 1.
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50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vascularization;
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                                                                                                                                                                                                                                                                                                                             THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7;
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HEPARIN (POTENTIAL).
C -> S (IN REF. 2).
R -> Y (IN REF. 2).
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Pred. No. 0.0062;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                HEPARIN-BINDING
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                                                                                                                                                                                                                                                                                                                             GROWTH FACTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGENTS
IN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S.E.;
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Matches Query Match Best Local (

11;

Conservative

Similarity

50.0%;

Score 64; Pred. No.

0 DB 1; 0.0064;

Length 155;

Indels

2;

Gaps

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FGFINUT 14
FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFINE FGFIN
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                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P10935;
01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
HEPARIN-BINDING GROWTH FACTOR 1 PRECURSOR (HBGF-1) (ACIDIC FIBROBLAST
     EMBL;
EMBL;
EMBL;
EMBL;
EMBL;
EMBL;
PIR;
PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Madiai F., Hackshaw K.V., Chi
"Cloning and characterization
Gene 179:231-236(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       *Hebert J.M., Basilico C., Goldfarb M.
*ISolation of cDNAs encoding four mou
characterization of their expression
Dev. Biol. 138:454-463(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Goodrich S., Yan G.C., Bahrenburg K., Mansson P. "The nucleotide sequence of rat heparin binding (HBGF-1).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse), and Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GROWTH FACTOR) (AFGF).
FGF1 OR FGF-1 OR FGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alam K.Y., Frostholm A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE; 97094746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPECIES-MOUSE; STRAIN-BALB/C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 97128312.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 90201563.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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X14232; CAA32448.1;

X30641; AAA37618.1;

U36459; AAC52969.1;

U36457; AAC52969.1;

U36458; AAC52969.1;

U36458; AAC52969.1;

U367610; AAC52907.1;

S04147; S04147.

S04147; S04147.
                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: MONOMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOUSE
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|:|||| |:|:: :|:| ||:
NHYNTYTSKKHAEKNWFVGLKK 128
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                                                                          JOINED.
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se brain.";
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RESULT 15
FGF4_CHICK
       STIKER REPRESENTATION OF THE STREET REPRESENT
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Best Local Similarity
Matches 11; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P05230; 2AXM, MGD; MGD; MGD; P5515; FGF1.
INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FGF4_CHICK
P48804;
01-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BINDING
                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature 371:609-612(1994).

-!- FUNCTION: MAY BE THE ENDOGENOUS RIDGE SIGNAL FOR LIMB DEVELOPMENT.

-:- FUNCTION: MAY BE THE ENDOGENOUS RIDGE SIGNAL FOR LIMB DEVELOPMENT.

RECIPPOCAL INTERACTIONS MAY CREATE A POSITIVE FEEDBACK LOOP

BETWEEN SONIC HEDGENOG (SHH) AND FGF4.

-!- TISSUE SPECIFICITY: POSTERIOR RIDGE.

-!- INDUCTION: BY RETINOIC ACID.

-!- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
FIBROBLAST GROW!H FACTOR-4 PRECURSOR (FGF-4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Growth factor; Mitogen; Vascularization; Heparin-binding. PROPEP 1 15 HEPARIN-BINDING GROWTH FACTO
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PRINTS; PR00263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                  PRINTS; PRO0262; IL1HBGF.
PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00247; HBGF_FGF; 1.
                                                                                                                                                                            INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Niswander L., Jeffrey "A positive feedback overtebrate limb.";
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                                                             Growth factor; Mitogen; Signal.
SIGNAL 1 ? PO
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       SEQUENCE
                                                        SIGNAL
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                                                                                                                                                                                                                                                                              EMBL; U14654; AAA58706.1;
                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement
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POTENTIAL.
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Copyright (c) 1993 - 2000 Compugen
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Q9yh31 notophthalm
P79685 ambystoma m
Q90696 gallus gall
Q14915 homo sapien
Q9pt78 oryzias lat
Q9yd8 oncorhynchu
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057398 cyprinus ca
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Q77374 human immun		O87242 lactococcus	_	O92401 bombyx mori	O51193 borrelia bu	borrel	onion	onion	onion	O41011 onion yello	Q98411 unclassifie	076831 caenorhabdi	gallid	089274 gallid herp	_	O91176 human immun	O91173 human immun		ø	=	090189 onion yello	017391 caenorhabdi	O62682 canis famil	Q9yjw1 cowpea aphi	Q9wid2 cowpea aphi

ALIGNMENTS

RC TISSUE-ADRENAL GLAND; RA Trochta O.A., Jacobs R.M., Lamarre J.; RT Trochta O.A., Jacobs R.M., Lamarre J.; RMBL; AROSOS A QUATERNARY COMPLEX WITH TWO FGFR1 AND AT LEAST O.A. REMBL; AROSOS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY. REMBL; AROSOS ALCASSILL; RMBL; AROSOS ALCASSILL; RMBL; AROSOS ALCASSILL; RMBL; AROSOS ALCASSILL; RMSS; POSO38; 1EFF. REMEMBLE ALCASSILL; REMBL; AROSOS ALCASSILL; REMBL; AROSOS ALCASSILL; RMSS; POSO38; 1EFF. Growth factor; Mi Phosphorylation; NON_TER 1 SITE 21 SITE 63 077767 077767; 01-NOV-1998 (TIEMBLIEL. 08, Created) 01-NOV-1998 (TIEMBLIEL. 08, Last sequence update) 01-NOV-1998 (TIEMBLIEL. 13, Last annotation update) easic fibroblasi growth factor (bfgf) (fgf-2) (Heparin-Binding growth Factor 2) (HBGF-2) (PROSTATROPIN) (PROSTATIC GROWTH FACTOR) Canis familiaris (D Eukaryota; Metazoa; BFGF. BINDING PROSITE; PS00247; HBGF_FGF; Growth factor; Mitogen; Vasc SEQUENCE FROM N.A. PFAM; PF00167 Mammalia; Eutheria; (FRAGMENT). PRELIMINARY; 21 63 ; FGF; (Dog). Da; Chordata; Craniata; Vertebrata; Euteleostomi; Da; Carnivora; Fissipedia; Canidae; Canis. Developmental 1 23 65 FGF; 1. Vascularization; CELL ATTACHMENT SITE (POTENTIAL). CELL ATTACHMENT SITE (POTENTIAL). HEPARIN (BY SIMILARITY). PRT; protein. 130 Heparin-binding; ₹

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A MASCATARE, 0,2000.

A MOSCATCHAIL D. JOSEPH-Silverstein J., Manejias R., Rifkin D.B.;

AT "Mr 25,000 heparin-binding protein from guinea pig brain is a high

AT molecular weight form of basic fibroblast growth factor.";

AT molecular weight form of basic fibroblast growth factor.";

AT molecular weight form of basic fibroblast growth factor.";

AT proc. Natl. Acad. Sci. U.S.A. 84:5778-5782(1987).

C. -i- FUNCTION: WIDE-SPECTRUM MITOGENIC, AND NEUROTROPHIC

C. -i- FUNCTION: MIDE-SPECTRUM MITOGENIC, AND INFORMATICATION OF PHYSIOLOGIC AND PATHOLOGIC

C. -i- SETCHYME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION,

C. PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL HERVOUS

C. SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO

C. -I- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST

C. -I- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFRI AND AT LEAST

C. -I- SUBUNIT: FORDUCTS: AT LEAST TWO ISOFORMS; 18 KDA AND 25 KDA

CC (SHOWN HERE); MAY BE PRODUCED BY USE OF ALTERNATIVE TRANSLATION

CC (INITIATION SITES, BOTH FORMS ARE ACTIVE.

CC -I- PTM: THE N-TERMINAL OF ISOFORM 18 KDA IS BLOCKED (PROBABLE).

CC -I- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
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SEQUENCE
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01-MAY-2000 (TremBLrel. 13, Last sequence update)
01-JUN-2000 (TremBLrel. 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 2 (FGF-2) (FIBROBLAST GROWTH FACTOR, BASIC)
(BFGF) (HEPARIN-BINDING GROWTH FACTOR 2) (HBGF-2) (PROSTATROPIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of a
                                                                                                                                                                                                                                                                                                                                                            Burgess W.H., Bizik J., Mehlman T., Quarto N., Rifkin D.B.; "Direct evidence for methylation of arginine residues in high molecular weight forms of basic fibroblast growth factor."; Cell Regul. 2:87-93(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q60487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "An amino-terminally extended and post-translationally modified of a 25kD basic fibroblast growth factor."; biochem. Biophys. Res. Commun. 160:1267-1274(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-PROSTATE;
Ricciardelli C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cavia porcellus (Guinea
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                                                                                                                                                                                                                                                                                                                   TISSUE=BRAIN;
                                                                                                                                                                                                                                                                                                                                  CHARACTERIZATION.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 53-170 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia;
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                                                                                                                                                                                                                                                                                                 87289686.
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103
48
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48 P
96 P
130
14902 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inea pig).
Chordata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Eute
Hystricognathi; Caviidae;
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SIMILARITY).
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Best Local :
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SEQUENCE FROM N.A.
MEDLINE; 89184522.

Prats H., Kaghad M., Prats A.C., Klagsbrun M., Leli
Liauzun P., Chalon P., Tauber J.P., Amalric F., Sm
"High molecular mass forms of basic fibroblast gro
initiated by alternative CUG codons.";

initiated by alternative CUG codons.";
                                                                                                                                                                                                                         P78443;
01-MAY-1997
01-MAY-1997
01-JUN-2000
21 KDA BASIC
                                                                                                                                                                                                                                                                                                                                                                                                                               BINDING
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PRINTS; PR00263; HBGFFGF; 1.
PROSITE; PS00247; HBGF_FGF; 1.
Growth factor; Mitogen; Vascularization; Heparin-binding;
Alternative initiation; Methylation; Phosphorylation;
                               Thomas E. "Reverse
        "Reverse transcription with nested polymerase chain reaction show expression of basic fibroblast growth factor transcripts in human granulosa and cumulus cells from in vitro fertilisation patients.
                                                              SEQUENCE MEDLINE;
                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                              P78443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; L75974; AAA85394.1; HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PFAM; PF00167; FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPR002209; -.
INTERPRO; IPR002348; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- CAUTION: THIS IS A CONCEPTUAL INTRODUCED FROM RESIDUES 77, 8
Biochem.
                                                    Watson
                                                                                                                                                                                                                                                                                                                                  124
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                                                                                                                                                                                                                                                                                                                                  SNNYNTYRSRKYSSWYVALKR 144
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Р.
                                                                                                                                                                                                                                                                                                                                                                             Similarity 100
21; Conservative
                                                              OF 81-168
93038590.
                                                   Anthony F.,
                                                                                                                                                                                                                          (TrimbLrel. 03, Created)
(Trimblrel. 03, Last sequence update)
(TrimbLrel. 14, Last annotation update)
FibrobLAST GROWTH FACTOR (BFGF).
                                                                                                                                                                                                                                                                              PRELIMINARY;
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                                                     Pickett
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18 KDA BASIC
FOR 18 KDA FO
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Pred. No. 4.4e-10;
Mismatches 0;
                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                 Klagsbrun M., Lelias
P., Amalric F., Smith
sic fibroblast growth
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                                                     Lambden
                                                                                                                                                                                                                                                                                196
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h J.A., C
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          patients.";
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AC 01
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CO Et G2
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P79706;

P79706;

P79706;

T 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
T 01-MAY-1997 (TREMBLrel. 03, Last annotation update)
T 01-MAY-2000 (TREMBLrel. 13, Last annotation update)
DE BASIC FGF (FRAGMENT).

Cynops pyrrhogaster (Japanese common newt).
Cynops pyrrhogaster (Chordata; Cranlata; Vertebrat
Eukaryota; Metazoa; Chordata; Salamandroidea; Sal
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Matches 20
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EMBL; S47380; AAD13853.1; -.
HSSB; P09038; IBEF:
INTERPRO; IPR002209; -.
INTERPRO; IPR002248; -.
PFAM; PF00167; FGF; 1.
PRINTS; PR00262; ILLHBGF.
PRINTS; PR00262; ILLHBGF.
PRINTS; PR00263; HBGFFGF; 1.
PRODOM; P000447; HBGF_FGF; 1.
PRODOM; P000481; -; 1.
SEQUENCE 196 AA; 21203 MW; D
                                                                                                        Q07659 PRELIMINARY;
Q07659;
Q17659;
Q1-NOV-1996 (TrEMBLrel. 01, L:
Q1-UN-2000 (TrEMBLrel. 14, L:
FEBCOBLAST GROWTH FACTOR.
         BFGF.
Gallus (Chicken).
Eukaryota; Metazoa; Chor
^~~hosauria; Aves; Neogr
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NON_TER
SEQUENCE
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HSSP; P09038; 2BEM:
INTERPRO; IPR002209; --
PFAM; PF00167; FGF; 1.
PROSITE; PS00247; HBGF_FGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Serial expression of the genes in a mesodermalizing ectearly Cynops gastrula.";
Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suzuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE=EMBRYO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kaneda
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T.;
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Similarity 95.2%;
20; Conservative
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101 AA;
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11906 MW;
                    Neognathae;
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                    Chordata; Craniata; Vertebrata;
Neognathae; Galliformes; Phasian:
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Last annotation update)
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Pred. No. 1.4e-09;
l; Mismatches 0
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ta; Vertebrata;
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                    cebrata; Euteleostomi;
Phasianidae; Phasiani
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01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
01-JUN-2000 (TrEMBLREL 14, Last annotation update)
PUTATIVE FIBROBLAST GROWTH FACTOR-4.
Notophthalmus viridescens (Eastern newt) (Triturus viridescens).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPRO01064; -.
INTERPRO; IPRO02209; -.
INTERPRO; IPRO02348; -.
PEAM; PR00167; FGF; 1.
PRINTS; PR00262; IL1HBGF.
PRINTS; PR00263; HBGFFGF.
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDITINE: 93246053.
Borja A.Z., Zeller R., Meijers C.;
Expression of alternatively spliced bFGF first antisense mRNAs during chicken embryogenesis.";
Dev. Biol. 157:110-118(1993).
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EMBL; M95706; AAA48616.1; -.
EMBL; X56804; CAA40139.1; -.
HSSP; P09038; 2BFH.
                                                                                                                                                                                                                                                                                                   PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; PROSITE; PS00247; HBGF_FGF; 1.
PRODOM; PD000831; -; 1.
SEQUENCE 196 AA; 22033 MW; AC4688CD9
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INTERPRO; IPRO02348; -.
PFAM; PF00167; FGF; 1.
PFINTS; PR00262; IL1HBGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Putative Newt Fibroblast Growth Factor-4."; Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases. EMBL, U76998, AAC98812.1; -. HSSP; P09038; 18FF.
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20; Conserv
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Pred. No. 0.09
3; Mismatches
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Pred. No. 1.5e-09;
0; Mismatches 1
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Han M.J., Kim W.S.;
Submitted (FEB-1997) to the
EMBL; Y11093; CAA71967.1;
HSSP; P09038; 1BFC.
INTERPRO; IPR002209; -.
PFAM; PF00167; FGF; 1.
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NON_TER
SEQUENCE
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Gallus gallus (Ch#cken).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Neognathae; Galliformes; Phasianidae; Phasiani
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P79685;
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HSSP; P09038; 1FGA.
INTERPRO; IPR002209; -.
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Cell 84:127-136(1996).
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Crossley P.H., Minowada
"Roles for FGF8 in the i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1996 (TYEMBLIZE). 01, Created)
01-NOV-1996 (TYEMBLIZE). 01, Last sequence update)
01-NAY-2000 (TYEMBLIZE). 13, Last annotation update)
FIBROBLAST GROWTH FACTOR 8 FGF8 (FRAGMENT).
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FIBROBLAST GROWTH FACTOR
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Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                             PFAM; PF00167;
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TISSUE-BRAIN;
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                                                                                                                                                                                                                                                                                    204 AA;
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larity 45.0%;
Conservative
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                                                                                                                                                                                                                                                                                    23730 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 58;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleost
Salamandroidea; Ambystomatidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09B38BD5E2A95C1F CRC64;
                                                                                                                                                                                                                                                                                5CAC63F72E23D979
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 204
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                                                                                                                                   DB 1
າ.21;
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                                                                                                                                                                              Length 204;
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RESULT
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Best Local
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Q9PT78;
01-MAY-2000
01-MAY-2000
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                                                             SEQUENCE FROM N.A.

Carl M., Wittbrodt J.;

Graded interference with FGF-signalling uncovers

"Graded interference with FGF-signalling uncovers
asymmetry at the mid-hindbrain boundary.";

Submitted (JUN-1999) to the EMBL/GenBank/DDBJ data
EMBL; AJ243210; CAB64349.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'IlBrown.
FGF8 OR FGF8r v..
Homo sapiens (Human).
Homo sapiens (Homan).
Homo sapiens (Human).
Homo sapiens (Human).
Homo sapiens (Human).
Homo sapiens (Human).
INTERPRO; IPRO02209; -. INTERPRO; IPRO02348; -. PFAM; PF00167; FGF; 1.
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EMBL; U47009; AAC50782.1; JOINED.
EMBL; U47010; AAC50782.1; JOINED.
EMBL; B014615; BAA28605.1; --
EMBL; U56978; AAB03787.1; --
EMBL; P09038; 2BFH.
                                                                                                                                                                                                                             Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Eu
Actinopterygii; Neopterygii; Teleostei; Euteleostei; A
Atherinomorpha; Cyprinodontiformes; Adrianichthyoidei;
Adrianichthyidae; Oryzinae; Oryzias.
                                                                                                                                                                                                                                                                                                                    FGF8 (FRAGMENT).
Oryzias latipes (Medaka fish).
                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2000
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PFAM; PF00167; FGF; 1.
PROSITE; PS00247; HBGF_FGF;
PRODOM; PD000831; -; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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Oncogene 0:0-0(0)
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MEDLINE; 96299767.
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9; Conser
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                                                                                                                                                                                                                                                                                                                                                                  (TrEMBLrel.) (TrEMBLrel.)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1-11 FROM N.A.
Wu J., Liu Y.,
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45.0%;
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                                                                                                                                                                                                                                                                                                                                                               Created)
Last sequence update)
Last annotation update)
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Pred. No. 0.25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; i Catarrhini; Hominidae;
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Best Local S
Matches
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Best Local S
Matches 10
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NON_TER
NON_TER
SEQUENCE
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Blochim. Blophys. Acta 1443:305-314(1998).
EMBL; Y1685; CAA76422.1; -.
TSSP; P09038; IBFF.
                                                                                                                                                                                                                           042278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0262; IL1HBGF.
PRINTS; PRO0263; HBGFFGF.
PROSITE; PS00225; CRYSTALLIN_BETAGAMMA; UNKNOWN_1.
PROSITE; PS00247; HBGF_EGF; 1.
PRODOM; PD000831; -; 1.
                                   Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
                                                                                                                               01-JAN-1998 (Tremblrel. 05, 01-JAN-1998 (Tremblrel. 05, 01-JUN-2000 (Tremblrel. 14, FIBROBLAST GROWTH FACTOR 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERPRO: IPR001064; -.
INTERPRO: IPR002209; -.
INTERPRO: IPR002348; -.
PFAM; PF00167; FGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii, Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
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Ol-MAY-1999 (TIEMBLIEL 10, Last sequence update)
Ol-JUN-2000 (TIEMBLIEL 14, Last annotation update)
FIBROBLAST GROWTH FACTOR 6-RELATED PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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10; Conser
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182 /
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nilarity 50.0%;
Conservative
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                                                                                                                                                    Created)
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                  Cyprinidae;
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                     Rasborinae;
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RESULT 14 083145 ID 083145

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Best Local
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O57341;
O57341;
O1-JUN-1998 (TrEMBLrel. 06
O1-JUN-1998 (TrEMBLrel. 106
O1-JUN-2000 (TrEMBLrel. 14
FIBROBLAST GROWIH FACTOR 8
FGF-8 OR FGF8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sleptsova-Friedrich I.L., Posubmitted (OCT-1997) to the EMBL; AF030560; AAB82614.1; HSSP; P09038; 1BLD.
                                                                                                                                                      Development 125:2381-2395(1998).
EMBL; AF034264; 'AAC60303.1; -.
EMBL; AF051365; AAC41302.1; -.
HSSP; P09038; 13LD.
                                                                                                                                                                                                                                                                                                                                                      Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00247; HBGF_FGF; UNKNOWN_1.
PRODOM; PD000831; -; 1.
SEQUENCE 210 AA; 24672 MW; EE86665
                                                                                          PROSITE; PS00247; HBGF_FGF; UNKNOWN_1
PRODOM; PD000831; -; 1
SEQUENCE 210 AA; 24697 MW; 9D9CA51
                                                                                                                       ZFIN; ZDB-GENE-990415-72;
INTERPRO; IPRO02209; -.
PFAM; PF00167; EGF; 1.
                                                                                                                                                                                                "Fgf8 is mutated in zebra required for maintenance and somitogenesis.";
                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. MEDLINE; 98274197.
                                                                                                                                                                                                                                                                                                    Fuerthauer M., Thisse
"A role for FGF-8 in t
                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. MEDLINE; 98043861.
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                                                                                                                                                                                                                               Brand M.;
                                                                                                                                                                                                                                       Reifers F., Boehli H.,
                                                                                                                                                                                                                                                                                            gastrula.",
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NNYTALQNVKYEGWYMAFTR 155
                                        Similarity
9; Conserv
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9; Conservative
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                                         Conservative
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dorsoventral
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he EMBL/GenBank/DDBJ
                   21
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Last annotation updat
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                                         Mismatches
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development
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01-NOV-1998 (TrEMBLrel. 08, C)
01-NOV-1998 (TrEMBLrel. 08, Li
01-JUN-2000 (TrEMBLrel. 14, L
LICC PROTEIN (LICC).
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NON_TER
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Treponema pallidum.
Bacteria; Spirochaetales;
                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

MEDLINE; 98.104248.

Christen B., Slack J.M.W.;

"FGF-8 is associated with anteroposterior patterning and limb

regeneration in Xenopus.";

Dev. Biol. 192:455-466(1997).

EMBL; Y10312; CAA71365.1; -.

HSSP; P09038; IBLD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Science 281:375-388(1998).
EMBL; AE001195; AAC26555.1; -.
TIGR; TP0107; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Complete genome sequence of Treponema pallidum, the syphilis spirochete.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=NICHOLS;
MEDLINE; 98332770.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IPRO01245; -.

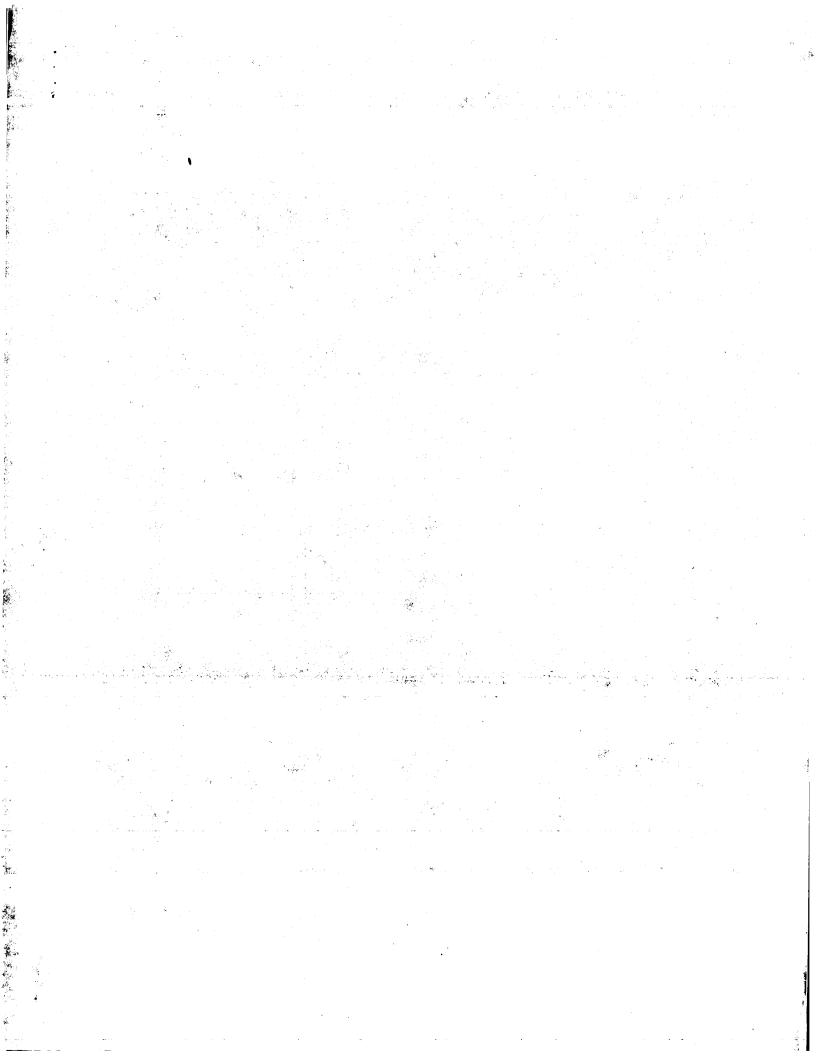
PROSITE; PS00109; PROTEIN_KINASE_TYR; 1.

SEQUENCE 525 AA; 61044 MW; E46DDCACC79BAB10 CRC64;
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Venter J.C.;
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                                                                                                                                                                                                                                                                  INTERPRO; IPR002209; -.
PFAM; PF00167; FGF; 1.
PROSITE; PS00247; HBGF_FGF; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopodinae; Xenopus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             y Match 45.7%;
Local Similarity 43.5%;
nes 10; Conservative
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2 NNYNTYRSRKYSSWYVALKR 21
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                                                                                            Similarity
8; Conserv
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200 AA;
                                                                                         45.2%; Score 52; DB llarity 40.0%; Pred. No. 1.6; Conservative 4; Mismatches
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23453 MW;
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(FRAGMENT).
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Pred. No. 3.
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125 NNYTALQNVKYEGWFMAFTR 144

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Search completed: November 9, 2000, 15:39:32 Job time: 609 sec



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Result
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Maximum Match 100%
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Maximum DB seq length: 2000000000
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Perfect score:
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Gapop 10.0 , Gapext 0.5
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11.396 Million cell updates/sec
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A354105
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C:Accession: A26983
R:Beri, R.K.; Whittington, H.; Roberts, C.F.; Hawkins, R:Beri, R.K.; Whittington, H.; Roberts, C.F.; Hawkins, Nucleic Acids Res. 15, 7991-8001, 1987
A;Title: Isolation and characterization of the positive A;Reference number: A26983; MUID:88040423
A;Accession: A26983
                                                                                                                regulatory protein QUTA - Emericella nidulans
C:Species: Emericella nidulans, Aspergillus nidulans
C:Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #t
C:Accession: A26983
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T09878
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Galau, G.A.; Wang, H.Y.C.; Hughes, submitted to the EMBL Data Library, a A;Description: Cotton Mat5-A (C164)
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A: Residues: 1-139 <GAL>
A: Cross-references: EMBL: M83301;
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C;Genetics:
Molecule type:
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A; Molecule type: DNA
A; Residues: 1-216 <PFI>A; Cross references: EMBL: AF065411; NID: g3249585; PID: g3249596; PIDN: AAC27050.1
A; Experimental source: host Methanobacterium thermoautotrophicum strain Marburg
C; Superfamily: Methanobacterium phage psiM2 hypothetical protein 11
                                                                                                                                                                                                           R;Pfister, P.; Wasserfallen, A.; Stettler, R.; Leisinger; submitted to the EMEL Data Library, May 1998
A;Description: Archaeophage PsiM2 complete genomic DNA.
A;Reference number: 217578
A;Accession: T12727
                                                                                                                                                                                                                                                                                         hypothetical protein 11 - Methanobacterium phage psiM2
C;Species: Methanobacterium phage psiM2
C;Date: 13-Aug-1999;#sequence_revision 13-Aug-1999 #text_change
C;Accession: T12727
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R;Stephens, R.S.; Kalman, R
Science 282, 754-759, 1998
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C;Genetics:
A;Gene: QUTA
A;Gene: QUTA
C;Superfamily: unassigned GAL4-type zinc cluster proteins; GAL4
C;Keywords: DNA binding; nucleus; transcription regulation
F;44-81/Domain: GAL4-zinc binuclear cluster homology <GAL4>
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A;Experimental source: serotype D, strain UW-3/Cx
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A; Cross-references: GB:A
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A; Residues: 1-1080 <
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                            Score 40; DB
Pred. No. 36;
1; Mismatches
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A;Description: interacts with a short DNA sequence of the A;Note: may interfere with coordination of protein synth C;Superfamily: bacteriophage T4 late gene expression bluc;Keywords: transmembrane protein; zinc F;61-82/Domain: transmembrane #status predicted <TM1>F;149-178/Domain: transmembrane #status predicted <TM2>F;160,164/Binding site: zinc (His) #status predicted F;151/Active site: Glu #status predicted
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A;Gene: src2
A;Cross-references: FlyBase:FBgn0003502
A;Cross-references: FlyBase:FBgn0003502
A;Map position: 29A
C;Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3
C;Keywords: ATP; autophosphorylation; phosphoprotein; phosphotransferase; transforming
F;152-201/Domain: SH3 homology <SH3>
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A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617
A;Accession: H64858
                                                                                                                                                     A; Note: the gene C; Genetics:
                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-590 <GRE>
                                                                                                                                                                                                                                                                                 A; Reference number: A; Accession: A27807
                                                                                                                                                                                                                                                                                                      R;Gregory, R.J.; Kammøerneyer, K.L.; Vincent III, W.S.; Mol. Cell. Biol. 7, 2119-2127, 1987
A;Title: Primary sequence and developmental expression A;Reference number: A27807; MUID:87257924
                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein-tyrosine kinase (EC 2.7.1.112) src2 - fruit fly (Drosophila melanogaster) C; Species: Drosophila melanogaster
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description: interacts with a short DNA sequence of the major capsid protein gene Note: may interfere with coordination of protein synthesis and assembly of T4 head
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Genome: cryptic prophage el4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                            Accession: A27807
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                                                                                                                                                                             es: GB:M16599;
is designated
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54.5%;
                                                                                                                                                                             NID:g158498;
as Dsrc28C
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47;
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RESULT 12
A57278
fibrillin-2
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12

precursor

mouse

QPESCEAPER

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R;Horne, W.A.; Ellinor, P.T.; Inman, I.; Zhou, M.; Tsien, R.W.; Schwarz Proc. Natl. Acad. Sci. U.S.A. 90, 3787-3791, 1993
A;Title: Molecular diversity of Ca(2+) channel alpha 1 subunits from th A;Reference number: A47447; MUID:93248175
A;Accession: B47447
A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-2326 <HORNA A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
A;Note: sequence extracted from NCBI backbone (NCBIP:130673)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene NK10 protein - mouse (house mouse) (Species: Mus musculus (house mouse) (Species: Mus musculus (house mouse) (Species: O-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 08-Oct-1999 (Spacession: 148689; 849078 (Spacession: 148689; 849078 (Spacession: Thiesen, H.J.; Vopper, G.; Johnson, K.R.; Lemai DNA Cell Biol. 14, 971-981, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;214-307/Domain: SH2 homology <SH2>
F;328-588/Domain: protein kinase homology <KIN>
F;336-344/Region: protein kinase ATP-binding motif
F;358/Active site: Lys #status predicted
F;481/Binding site: phosphate (Tyr) (covalent) (by
                                                                                                                                                                                                                                                                                                                                                                       calcium channel protein alpha-1 chain (variant doe-4) - electric ray (Discopyge C;Species: Discopyge ommata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Cross-references: EMBL: x79828; NI
C; Superfamily: zinc finger protein
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                                                                                                                                                                                                                                                                                                                                C; Date: 21-Jan-1994
C; Accession: B47447
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A; Accession: I48689
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Matches 7
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4 KPEKCDKPRR 13
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                                    Similarity
6; Conserv
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                                    Conservative
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finger protein ZFP-36
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             regulated mouse gene NK10
89; MUID:96069544
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58.3%;
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Pred. No.
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Pred. No.
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2.6e+02;
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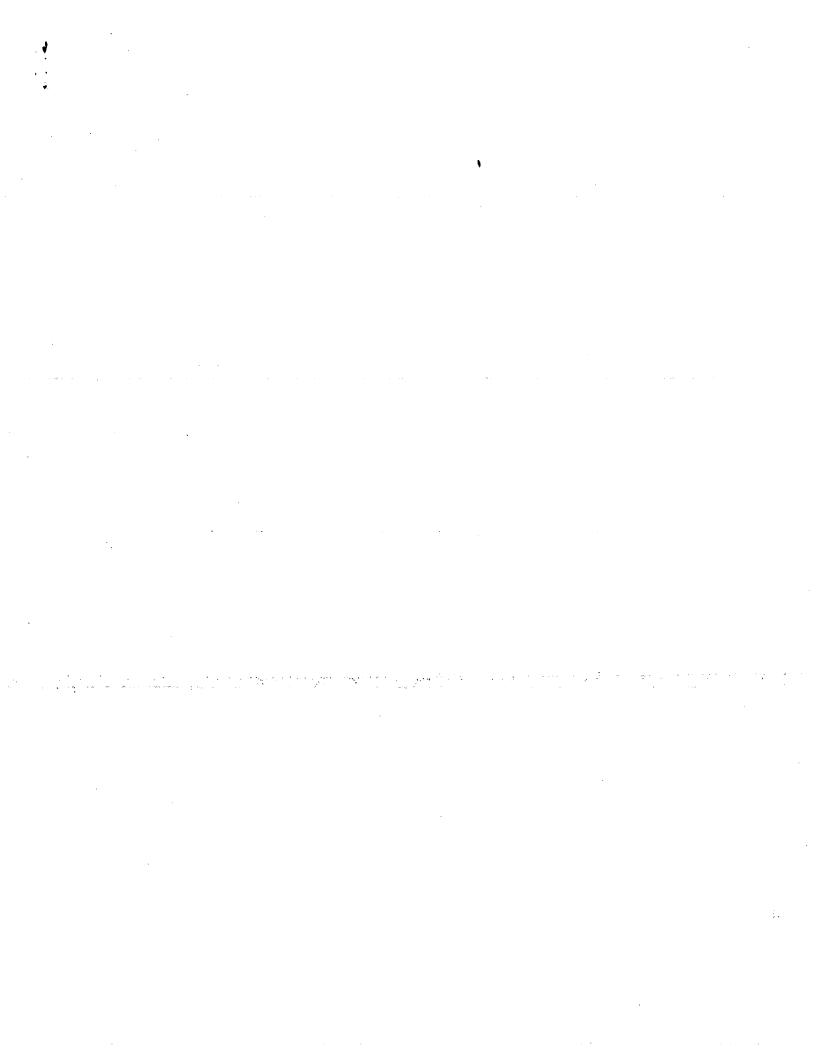
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C;Accession: S52130
R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdou Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of A;Reference number: S52130; MUID:95143284
A;Accession: S52130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GDB:128122; OMIM:121050
A;Map position: 5q33-5q31
C;Superfamily: unassigned EGF-related proteins; EGF homology
C;Keywords: extracellular protein
F;1-29/Domain: signal sequence #status predicted <SIG>F;1-29/Domain: signal sequence #status predicted <MAT>F;1245-1280/Domain: EGF homology <EGF1>
F;1970-2013/Domain: EGF homology <EGF5>
                                                                                                                       vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-7ul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Accession: S52130
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A,Residues: 1-2907 <ZHA>
A,Residues: 1-2907 <ZHA>
A;Cross-references: GB:L39790; NID:g762830; PIDN:AAA74908.1;
C;Superfamily: unassigned EGF-related proteins; EGF homology
F;1239-1274/Domain: EGF homology <EGF1>
F;2488-2523/Domain: EGF homology <EGF>
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J. Cell Biol. 129, 1165-1176, 1995
A;Title: Developmental expression of fibrillin
A; Reference number: A57278; MUID:95263670
A; Accession: A57278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: Structure and expression of fibrillin-2, A;Reference number: A54105; MUID:94165150 A;Accession: A54105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Zhang, H.; Apfelroth, S.D.; Hu, W.; Davis, E.C.; Sanguineti, C.; Bonadio, J.; J. Cell Biol. 124, 855-863, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibrillin-2 precursor - human
C;Species: Homo sapiens (man)
C;Date: 09-Sep_1994 #sequence_revision 09-Sep-1994 #text_change 11-Jan-2000
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A; Residues: 1-2918 <ZHA>
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;Accession: A57278
;Zhang, H.; Hu, W.; Ramirez, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene: GDB:FBN2
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58.3%;
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Pred. No. 3.1e+02;
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Pred. No.
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                                                                                              Verdouw, P.D.
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A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Keywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted
F;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Biochem. Biophys. Res. Commun. 161, 851-858, 1
A;Title: Pituitary follicular cells secrete a
A;Reference number: A33255; MUID:89286596
A;Accession: A33255
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A;Accession: B33787
A;Molecule type; mRNA
A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808;
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R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D. Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.;
Biochem. Biophys. Res: Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-derived
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A; Residues: 1-190 <LEU>
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Copyright (c) 1993 - 2000 Compugen Ltd.
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VEGF_SHEEP
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P10563 emericella
P11072 escherichia
P08630 drosophila
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QA1F_NEUCR	PIGR_RAT	OPUD_BACSU	GLC1_SOYBN	YAIP_ECOLI	YAOC_SCHPO	H1_PEA	SGS4_DROME	TXO3_AGEAP	VGF1_IBVB	ACVT_PENCH	ACVS_PENCH
P11638 neurospora	P15083 rattus norv	P54417 bacillus su	P04776 glycine max	Q47536 escherichia	Q10091 schizosacch	P08283 pisum sativ	Q00725 drosophila	P33034 agelenopsis	P27920 avian infec	P26046 penicillium	P19787 penicillium

ALIGNMENTS

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EMBL; X89506; CAA61677.1; HSSP; p1592; lypr; INTERPRO, IPRO0JO72; - FFAM; pF00341; pDGF; 1. PROSITE; pS00249; pDGF_1; 1. PROSITE; pS50279; pDGF_2; 1. Mitogen; Growth factor; Glycoprotein; Signal. SIGNAL 1 26 BY SIMILARITY. CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR. DISULFID 51 93 BY SIMILARITY. DISULFID 86 129 BY SIMILARITY. DISULFID 87 10 100 N-LINKED (GLCNAC) (POTENTIAL). SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;	PERMEABILITY. -: SUBUNIT: HOMODIMER, DISULFIDE-LINKED. -: SUBCILIULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR -: SUBCILIULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR -: SIMILARITY) -: SIMILARITY) -: SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS. This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bi-informatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).	STANDARD; PRT; 146 AA. PSO412; PSO412; O1-OCT-1996 (Rel. 34, Created) O1-OCT-1996 (Rel. 34, Last sequence update) O1-NOV-1997 (Rel. 35, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF). VEGF. Ovis aries (Sheep). Cukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Caprinae; Ovis.
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PROSITE; PS50048; ZN2_CY6_FUNGAL_2; 1.

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Fungi; Ascomycota; Eurotiales;
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(Rel. 11, Last sequence up
(Rel. 25, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              UTILIZATION
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61.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 41;
Pred. No.
2; Mismatc
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OShima T., Alba H., Baba T., Fujita K., Hayashi K., Honjo A.,
OShima T., Alba H., Baba T., Fujita K., Kanai K., Kashimoto K.,
Irada T., Itoh T., Kajihara M., Kanai K., Kashimoto K.,
Kimura S., Kitaqawa M., Makimo K., Masuda S., Miki T., Mizobuchi K.,
Kimura S., Kitaqawa M., Makamura Y., Nashimoto H., Nishio Y., Saito N.,
Mori H., Motomura K., Nakamura Y., Nashimoto H., Nishio Y., Saito N.,
Sampei G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y.,
Yano M., Horiuchi T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use European Bioinformatics Institute. There are no rest
used by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
entities remained
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A 718 kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 12.7-28.0 min region on the linkage map."; DNA Res. 3:137-155(1996).

POWNER 
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                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
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Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "The lit gene product which blocks bacteriophage T4 late gene expression is a membrane protein encoded by a cryptic DNA element, e14.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kao C., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ECOGENE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N A STRAIN=K12 / MG165
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Science 277:1453-1474(1997).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FROM N.A.
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                                                                                                                                                                                                                                                                                                              297 FA;
                                                                                                                                    Conservative
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                                                                                                                                 Score 40; DB
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C P08630; P11361;
C P08630; P11361;
JT 01-AUG-1988 (Rel. 08, Created)
JT 01-AUG-1988 (Rel. 08, Last sequence update)
JT 01-NOV-1997 (Rel. 35, Last annotation update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE TYROSINE-PROTEIN KINASE SRC28C (EC 2.7.1.112).
GN BTK29A OR SRC29A OR SRC2.
OS Drossphila melanogaster (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
CC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomo:
CP Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
SRC2_DROME
   FIVEASE; FB9n0003502; Btk29A.

INTERPRO; IPR000719; -.

INTERPRO; IPR000980; -.

INTERPRO; IPR001245; -.

INTERPRO; IPR001245; -.

INTERPRO; IPR001452; -.

PFAM; PF00018; SH3; 1.

PFAM; PF00018; SH3; 1.

PFAM; PF00019; PK1DASE; 1.

PFAM; PF00109; PK1DASE.

PRNITS; PR00109; PROTEIN_KINASE_ATP; 1

PROSITE; PS001109; PROTEIN_KINASE_TYR; 1

PROSITE; PS00109; PROTEIN_KINASE_DOM; 1

PROSITE; PS50001; SH3; 1.

PROSITE; PS50001; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gregory R.J., Kammermeyer K.L., Vincent W.S. III, Wadsworth S.G.; "Primary sequence and developmental expression of a novel Drosophila melanogaster src gene.";
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wadsworth S.C., Madhavan K., Bilodeau-Wentworth D.; "Maternal inheritance of transcripts from three Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 356-484 FROM N.A. MEDLINE; 85215606.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      melanogaster src gene.";
Mol. Cell. Biol. 7:2119-2127(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SRC2_DROME
                                                                                                                                                                                                                                                                                                               PIR; A27807; TVFFDS.
PIR; A23051; A23051.
HSSP; P11362; 1FGI.
                                                                                                                                                                                                                                                                                                                                                              EMBL; M16599; AAA28912.1; EMBL; X02305; CAA26170.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished observations (JUL-1997)
-!- CATALYTIC ACTIVITY: ATP + A PRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sjolander
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY WITH BTK SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         src-related genes."
                                                DOMAIN
                                                                            Tyrosine-protein kinase; Proto-oncogene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: CONTAINS 1 SH2 DOMAIN.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: TO OPHER PROTEIN-TYROSINE KINASES
DOMAIN. BELONGS TO THE BTK SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEVELOPMENTAL STAGE: EXPRESSED PREDOMINANTLY IN EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBRYOGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROTEIN TYROSINE PHOSPHATE.
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145 206
214 307
330 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTIVITY: ATP + A PROTEIN TYROSINE -
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                                                             SH3
                                                                                                                                                                                                                                                                                                                                                           ALT_TERM.
GLY-RICH.
SH3.
SH2.
PROTEIN KINASE.
                                                             domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           590
                                                             SH2
                                                                            Phosphorylation;
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RESULT 5
ZF90_MOUSE
ID ZF90_M
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                                                                                                                                                                                                                                                                                                                                                                                                                           TDEVELOPMENTALLY REQUIATED MOUSE GENE WRID encodes a zinc finger repressor protein with differential DNA-binding domains.";

LDNA Cell Biol. 14.971-981(1995).

C -!- FUNCTION: MAY FUNCTION AS A REPRESSOR OR SILENCER PROTEIN, AND MOST LIKELY EXERTS ITS REPRESSING ACTIVITY UPON ZINC-DEPENDENT BINDING TO DNA. MAY BE INVOLVED IN PROPER SPERMATOGENESIS BY C REPRESSING THE EXPRESSION OF GENES UNNECESSARY OR INCOMPATIBLE WITH THE MAINTENANCE OF A HAPDOID CELL STATE.

C -!- SUBCELLULAR LOCATION: NUCLEAR.

C -!- SUBCELLULAR LOCAT
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Best Local
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EMBL; X79828; CAA56225.1; -.
HSSP; P08047; 15P2.
MGD; MGI:104786; ZFP90.
INTERPRO; IPRO00822; -.
INTERPRO; IPRO00822; -.
PFAM; PF01352; KRAB; 1.
PFAM; PF00096; Zf-C2H2; 13.
PFAM; PF00096; ZINC_FINGER.
PRINTS; PR00048; ZINC_FINGER_C2H2; 13.
PROSITE; PS00028; ZINC_FINGER_C2H2; 13.
Zinc-finger; Metal-binding; DNA-binding; Nu
Transcription regulation; Repressor.
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BINDING
ACT_SITE
MOD_RES
CONFLICT
SEQUENCE
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                                                                                                                                                                                                                                                 entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
ZINC FINGER PROTEIN 90 (ZFP-90) (ZINC FINGER PROTEIN NK10).
                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-C57BL/6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                     -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lange R., Christoph A., Thiesen H.-J., Vopper G.,
Lemaire L., Plomann M., Cremer H., Barthels D., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 96069544
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                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: CONTAINS 1 KRAB BOX.
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                                                                                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
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letazoa; Chordata;
theria; Rodentia;
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54.5%;
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BY SIMILARITY.
PHOSPHORYLATION (AUTO-) (BY SIMILARITY).
S -> F (IN REF. 2).
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Sciurognathi; Muridae; Murinae;
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                           Nuclear
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                         protein;
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CCAB_DISOM
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Best Local S
Matches
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p56698;
15-JUL-1999 (Rel. 38, Create;
15-JUL-1999 (Rel. 38, Last s;
30-MAY-2000 (Rel. 39, Last a;
pROBABLE VOLTAGE-DEPENDENT N.
(DOE-4).
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii, Squalea; Hypnosqualea; Pristiorajea; Batoidea;
Torpediniformes; Narcinoidei; Narcinidae; Discopyge.
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                                                                                                                                                                                                                                                                                                       Horne W.A., Ellinor P.T., Inm
"Molecular diversfty of Ca2+
ray Discopyge ommata.",
Proc. Natl. Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                         MEDLINE;
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                                                                                                                                                                        C. NATI ACAD. SCI. U.S.A. 90:3787-3791(1993).

C. NATI ACAD. SCI. U.S.A. 90:3787-3791(1993).

FUNCTION: THE ISOFORM ALPHA-1B GIVES RISE TO N-TYPE CALCIUM CHANNELS BELONG TO THE "HIGH-VOLTAGE CURRENTS. N-TYPE CALCIUM CHANNELS BELONG TO THE "HIGH-VOLTAGE ACTIVATED" (HVA) GROUP (BY SIMILLARITY).

SUBUNIT: VOLTAGE-DEPENDENT CALCIUM CHANNELS ARE MULTISUBUNIT COMPLEXES, CONSISTING OF ALPHA-1, ALPHA-2, BETA AND DELTA SUBUNITS IN A 1:1:1:1 RATIO. THE CHANNEL ACTIVITY IS DIRECTED BY THE PORE-FORMING AND VOLTAGE-SENSITIVE ALPHA-1 SUBUNIT. IN MANY CASES, THIS SUBUNIT SUFFICIENT TO GENERATE VOLTAGE-SENSITIVE CALCIUM CHANNEL ACTIVITY. THE AUXILLARY SUBUNITS BETA AND ALPHA-2/DELTA LINKED BY A DISULFIDE BRIDGE REGULATE THE CHANNEL ACTIVITY (BY
                     DOMAIN: EACH OF THE FOUR INTERNAL REPEATS CONTAINS FIVE HYDROPHOBIC TRANSMEMBRANE SEGMENTS (S1, S2, S3, S5, S6) AND ONE POSITIVELY CHARGED TRANSMEMBRANE SEGMENT (S4). S4 SEGMENTS POSITIVELY CHARGED THE VOLTAGE-SENSOR AND ARE CHARACTERIZED BY A SERIES OF POSITIVELY CHARGED AMINO ACIDS AT EVERY THIRD POSITION. PHOSPHORYLATED IN VITRO BY CAM-KINASE II, CAPK, PKC AND CGPH
                                                                                                            SUBCELLULAR LOCATION: INTEGRAL ALTERNATIVE PRODUCTS: AT LEAST ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: EXPRESSION
SIMILARITY: BELONGS TO THE CALCIUM CHANNEL ALPHA-1 SUBUNITS
              (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKKPYKCDKCRK 215
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                                                                                                   SSUE SPECIFICITY:
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. 38, Last sequence.
. 39, Last annotation.
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58.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence update)
annotation updat
N-TYPE CALCIUM C
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Pred. No.
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channel alpha 1
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KRAB BOX ("B BOX").
ZINC-FINGERS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ced. No. 33;
Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   calcium channel alpha-18 subunit
                                                                                                                                       MEMBRANE PROTEIN (BY SIMILARITY)
2 ISOFORMS ARE PRODUCED BY
                                                                                                              SI
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7 15-DEC-1998 (Rel. 37, Created)

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or send a
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Genomics 18:667-672(1993).
-i- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
-ITHAT BINDS CALCIUM. FIBRILLIN-1-CONTAINING MICROFIBRILS PROVIDE
LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.
-i- SIMILARITY: CONTAINS 43 CALCIUM-BINDING AND 4 NON-CALCIUM BINDING
EGF-LIKE DOMAINS.
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Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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"Developmental expression of fibrillin
of extracellular microfibrils.";
Cell Biol. 129:1165-1176(1995).
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      EMBL; S69359; AAC60685.1;
MGD; MGG:95499; FBN2.
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INTERPRO; IPR000862; -.
INTERPRO; IPR001438; -.
INTERPRO; IPR001881; -.
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PRINTS; PRO0010; ASX_HYDROXYL; 43.

PROSITE; PS000022; EGF_1; 2.

PROSITE; PS01186; EGF_2; 36.

PROSITE; PS01187; EGF_CA; 43.

Extracellular matrix; Calcium-binding;
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FIBRILLIN 2.

EGF-LIKE 1, NON-CALCIUM BINDII EGF-LIKE 2, NON-CALCIUM BINDII EGF-LIKE 3, NON-CALCIUM BINDII EGF-LIKE 4, CALCIUM-BINDING. EGF-LIKE 4, CALCIUM-BINDING. EGF-LIKE 5, CALCIUM-BINDING. EGF-LIKE 6, CALCIUM-BINDING. EGF-LIKE 10, CALCIUM-BINDING. EGF-LIKE 11, CALCIUM-BINDING. EGF-LIKE 11, CALCIUM-BINDING. EGF-LIKE 12, CALCIUM-BINDING. EGF-LIKE 13, CALCIUM-BINDING. EGF-LIKE 14, CALCIUM-BINDING. EGF-LIKE 15, CALCIUM-BINDING. EGF-LIKE 16, CALCIUM-BINDING. EGF-LIKE 17, CALCIUM-BINDING. EGF-LIKE 20, CALCIUM-BINDING. EGF-LIKE 21, CALCIUM-BINDING. EGF-LIKE 22, CALCIUM-BINDING. EGF-LIKE 23, CALCIUM-BINDING. EGF-LIKE 24, CALCIUM-BINDING. EGF-LIKE 25, CALCIUM-BINDING. EGF-LIKE 26, CALCIUM-BINDING. EGF-LIKE 27, CALCIUM-BINDING. EGF-LIKE 28, CALCIUM-BINDING. EGF-LIKE 30, CALCIUM-BINDING. EGF-LIKE 31, CALCIUM-BINDING. EGF-LIKE 31, CALCIUM-BINDING. EGF-LIKE 32, CALCIUM-BINDING. EGF-LIKE 33, CALCIUM-BINDING. EGF-LIKE 34, CALCIUM-BINDING. EGF-LIKE 35, CALCIUM-BINDING. EGF-LIKE 36, CALCIUM-BINDING. EGF-LIKE 37, CALCIUM-BINDING. EGF-LIKE 40, CALCIUM-BINDING. EGF-LIKE 41, CALCIUM-BINDING. EGF-LIKE 44, CALCIUM-BI
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P35556;
01-JUN-1994
01-FEB-1996
01-NOV-1997
FIBRILLIN 2
                                                                                                                                                                                                   PULDAM E.A. Zhang H., Ramirez F., Milewicz D.M.;
Putham E.A. Zhang H., Ramirez F., Milewicz D.M.;
"Fibrillin-2 (FBN2) mutations result in the Marfan-like disorder,
congenital contractural arachnodactyly.";
Nat. Genet. 11:456-458(1995).
-i- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
-i- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
THAT BINDS CALCIUM. FIBRILLIN-2-CONTAINING MICROFIBRILS REGULATE
THE EARLY PROCESS OF ELASTIC FIBER ASSEMBLY.
-i- DISEASE: DEFECTS IN FBN2 ARE THE CAUSE OF CONGENITAL CONTRACTURAL
ARACHNODACTYLY (CCA) (ALSO KNOWN AS BEALS SYNDROME). CCA IS
PHENOTYPICALLY SIMILAR TO MARFAN SYNDROME, BUT DOES NOT EFFECT THE
AORTA AND THE EYES.
-i- SIMILARITY: CONTAINS 43 CALCIUM-BINDING AND 4 NON-CALCIUM BINDING
EGF-LIKE DOMAINS.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tsipouras P., Remirez F., Hollister D.;
"Linkage of Marían syndrome and a phenot
two different fibrillin genes.";
Nature 352:330-334(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zhang H., Apfelroth S.D., Hu W.,
Bonadio J., Mecham R.P., Ramirez
"Structure and expression of fibr
component preferentially located
J. Cell Biol. 124:855-863(1994).
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Eukaryota; Metazoa; (
Mammalia; Eutheria; F
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Similarity 58.3%;
7; Conservative
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-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOCENESIS, AND ENDOCELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCU
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01-FEB-1996 (Rel.
01-OCT-1996 (Rel.
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P49151;
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-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANG
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SUBCULT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

SUBCELLUAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX PATERS.
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-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ICELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VI
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01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
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SIMILARITY; BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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PS50279; PDGF_2; 1.
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                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TANNUCES ENDOTHELIAL PROLIFERATION I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A., "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Expression of vascular endothelial growth factor during angiogenesis and endothelial cell differentiation.";
Development 114:521-532(1992).
                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CELL GROWTH. INDUCES ENDOTHELIAL PROL
PERMEABILITY.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: VEGF-1 AND VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
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(200731;
(201-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
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MEDLINE; 96216498.
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MEDLINE; 92355593.
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                                                                                                                                                                                                                                                                                                                                                                                                                           ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHAMINER) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.

TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPTITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBBLES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADDULTS.
SIMILARITY: BELONGS TO THE POSF/VEGF FAMILY OF GROWTH FACTORS.
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            A43351;
                                 $37052;
$38083;
$38100;
$95200;
$U41383;
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                              AAB22253.1; -.; AAB22253.1; -.; AAB22254.1; -.; AAA40547.1; -.; CAB35545.1; -.
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Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 190
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VEGF_HUMAN
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Best Local Similarity
Matches 6; Conserv
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01-APR-1990 (Rel. 14, I
15-JUL-1999 (Rel. 38, I
VASCULAR ENDOTHÉLIAL GE
PERMEABILITY FACTOR) (V
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P15692;
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Connolly D.
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Mitogen;
SIGNAL
               MEDLINE; 92231879.
Weindel K., Marme D., Weic
"AIDS-associatec Kaposi's
                                                                                                   Tischer E., Mitchell R., Hartman T., Silva M., Friddes J.C., Abraham J.A.; The human gene for vascular endothelial growt protein forms are encoded through alternative J. Biol. Chem. 266:11947-11954(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                   mitogen.
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SEQUENCE
                                                    SEQUENCE FROM N.A. MEDLINE; 92231879.
                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE; 91268072.
                                                                                                                                                                                                                                                     Science 246:1308-1312(1989).
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                         "Vascular
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PFAM; PF00341; PDGF;
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                                                                                                                                                                                                                                                                                                                         S.D., Krivi G., Sanzo K., Warren
aposi's sarcoma factor.";
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Primates;
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85.7%;
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L growth
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GROWIH FACTOR PRECURSOR (VEGF) (VASCULAR (VPF).
                                   Weich H.A.;
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BY SIMILARITY.
VASCULAR ENDOTHELIAL
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wth factor is
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNGL...) (PROBAB
K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
GE -> ER (IN REF. 2).
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BY SIMILARITY.
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                  cells
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                express vascular
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Homo.
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PRELIMING...

MEDLINE; 90062112.

Connolly D.T., Olander J.V., Heuven...

Siegel N., Haymore B.L., Leingruber R.,

Siegel N., Haymore B.L., Leingruber R.,

"Human vascular permeability factor. Is,

"Human vascular 264:20017-20024(1989).
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"The crystal structure of vascular endothelial growth factor (VEGF)
refined to 1.93-A resolution: multiple copy flexibility ~~~ binding.";
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                                                     This SWI
between
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Fairbrother W.J., Keenan C.J., Mer
"Crystal structure of the complex
peptide.";
 the Europuse by modified
                                                                                                                                                                                                                                                               "Solution structure of the heparin-
endothelial growth factor.";
Structure 6:637-648(1998).
-1- FUNCTION: GROWTH FACTOR ACTIVE
CELL GROWTH. INDUCES ENDOTHELIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                           "1H, 13C, and 15N backbone assignment and secondary structure receptor-binding domain of vascular endothelial growth factor. Protein Sci. 6:2250-2260(1997).
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Fiebich B.L.,
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                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Starovasnik M.A.;
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s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMRL outstation - European Bioinformatics Institute for Biorer are no restrictions on tist by non-profit institutions as long as its content is in no way ified and this statement is not removed. Usage by and for commercial
                                                                                                       SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                        SIMILARITY).
ALTERNATIVE PRODUCTS:
ALTERNATIVE SPLICING
                                                                                                                                                                                           PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
TO THE EXTRACELLULAR MATRIX UNLESS RE
                                                                                                                         VEGF-189 AND VEGF-215).
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NE; 97352774.
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93145946.
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J01463; J01463;
J01464; J01464;
S17348; S17348;
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Search completed: November Job time: 569 sec
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"ENL, the gene fused with HRX in t(11;19) leukemias, encodes a
real nuclear protein with transcriptional activation potential in lymphoid
and myeloid cells.";

LE BLOOD 84:1747-1752(1994).

C. -I- FUNCTION: CAPABLE OF ACTIVATING TRANSCRIPTION FROM SYNTHETIC
C. REPORTER GENES IN BOTH LYMPHOID AND MYELOID CELLS.

C. -I- SUBCELLULAR LOCATION: NUCLEAR.

C. -I- SUBCELLULAR LOCATION: NUCLEAR.

C. -I- SUBCELLULAR LOCATION IN A T(11;19) (023; P13.3) CHROMOSOMAL

TRANSLOCATION IN ACUTE LEUKEMIAS CAUSING FUSION TO THE TRITHORAX
C. (MLL OR HRX) GENE PRODUCT WHICH CONTAINS DNA-BINDING MOTIFS
C. -I- SUBLIFING IN A ROGUE ACTIVATOR PROTEIN.

C. -I- SIMILARITY: TO HUMAN AF-9.

C. -I- SIMILARITY: TO YEAST TRANSCRIPTION INITIATION FACTOR TFIIF SMALL
C. SUBUNIT (TFG3/ANC1).
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Best Local Similarity 50.0%;
Matches 6; Conservative
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TRACTHIK D.C., KOhler S., Cleary M.L.;

"Involvement of a homolog of Drosophila trithorax by 11q23 chromosomal translocations in acute leukemias.";

Cell 71:691-700(1992).
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DOMAIN
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MIM; 159556;
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7: sp_mhc.
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13: sf
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Copyright (c) 1993 - 2000
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O9v9f1 drosophila

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Q9uh58 homo sapien
042571 xenopus lae
094005 candida alb
Q9v4s1 drosophila
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ALIGNMENTS

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                                   Q9UH58 • PRELIMINARY;
Q9UH58;
Q1-MAY-2000 (Tramblrel 13,
Q1-MAY-2000 (Tramblrel 13,
Q1-JUN-2000 (Tramblrel 14,
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Q9QXG6;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IShii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
TDevelopmental expression of vascular endothelial growth factor-A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 ir
masseter muscle.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF215726; AAF19212.1; -.
INTERPRO; IPR0007072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
       VASCULAR ENDOTHELIAL GROWTH
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Pred. No.
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PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA.
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01-MAY-1999
01-MAY-1999
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Submitted (JUN-1927) t
EMBL; AF008593; AAB636
HSSP; P15692; 1VPP.
      Candida albicans (Yeast).

Eukaryota; Fungi; Ascomycota;

anamorphic Saccharomycetales;
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01-MAY-1999 (TIEMBLIE1.
01-MAY-1999 (TIEMBLIE1.
QUESTIONABLE ORF.
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042571;
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01-JAN-1998
01-JUN-2000
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Eukaryota; Metazoa; Chordata; Craniata; Ven
Amphibia; Batrachia; Anura; Mesobatrachia;
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SIGNAL
SEQUENCE
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"Human cDNA for vascular endothelial growth factor isoform VEGF121.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF214570; AAF19659.1; -
INTERPRO; IPROMO702; -
FFAM; PF00341; PDGF; 1.
PFOSITE; PS00249; PDGF; 1.
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Eukaryota; Metazoa;
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Similarity 66.78;
8; Conservative
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1998 (TremBLrel. 05, I
2000 (TremBLrel. 14, I
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147 AA;
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-1927) to the
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17219 MW;
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e EMBL/GenBank/DDBJ
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1; Mismatches
            Saccharomycetes; Saccharomycetales; Candida.
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DDF4D6994249BED6 CRC64;
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ila; Pipoidea; Pipidae;
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01-MAY-2000
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CG214y.

Drosophila melanogaster (Fruit fly).

Drosophila melanogaster (Fruit fly).

Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda;

Pterygota; Neoptera; Endopterygota; Diptera; Brachyoterhydroidea: Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9V4S1;
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Fungal Genet. Biol. 21:308-314(1997).
EMBL; AL033391; CAA21939.1; -.
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Tait E., Simon M.C.,
"A Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
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Submitted (NOV-1998) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Barrell B.G.,
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SEQUENCE FROM N:A.
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7; Conserv
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) (TrEMBLrel.)
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77.8%;
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the EM
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gow N.A.R.,
d contigs, pl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
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RESULT
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A Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,

A Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,

A Shue B.C., Siden-Riamos I., Simpson M., Skupski M.P., Smith T.,

A Syler E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,

A Syler E., Spradling A.C., Stapleton M., Strong R., Sun E.,

Syler E., Spradling A.C., Weinstock G.M., Wang X.,

Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,

A Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,

A Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,

A Ye J., Yeh R.-F., Zaveri J.S., Zhou X., Zhu X., Smith H.O.

A Gibbs R.A., Myers_E.W., Rubin G.M., Venter J.C.;

"The genome sequence of Drosophila melanogaster.";

Science 287:2185-2195(2000).

EMBL; AEO03837; AAF59104.1; -.

PR FLYBASE; FBgn0033284; CG2149.
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Best Local S
Matches 6
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Best Local
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Q39795;
01-NOV-1996
01-NOV-1996
01-MAY-2000
25 ALBUMIN S
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Submitted (JAN-1992) to the EMBL/GenBank/DDBJ
EMBL; M83301; AAA33049.1; -.
MENDEL; 14688; Goshi; 2374;14688.
INTERPRO; IPR001768; -.
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Eukaryota; Viridiplantae; Embryophyta; '
Magnoliophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996 (TIEMBLIEL. 01, Created)
01-NOV-1996 (TIEMBLIEL. 01, Last sequence update)
01-MAY-2000 (TIEMBLIEL. 13, Last annotation updat
25 ALBUMIN STORAGE PROTEIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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                                                                                                                                                                                                                                                                                                                                          1 CRIKPEKCDKPRR
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6 (TrEMBLrel. 01, Last sequence update)
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STORAGE PROTEIN PRECURSOR.
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                                                                                                                                                                                                                                                                                                                                                                                                Score 41; DB Pred. No. 9; 2; Mismatches
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2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
43ACF35FE97D19B4 CRC64;
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Best Local S
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Submitted (APR-1998) to the EMB:
EMBL; AF059661; AAC14713.1; -.
HSSP; P15692; IVPF.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 144 AA; 16479 MW;
                  Q9VDQ4
Q9VDQ4;
Q9VDQ4;
01-MAY-2000
01-MAY-2000
01-JUN-2000
CG4413 PROTE
CG4413
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073822;
01-AUG-1998
01-AUG-1998
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CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
Actinopterygii; Neopterygii; T
Cypriniformes; Cyprinoidea; Cy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Signal
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Galau G.A., Wang H.Y.C., Hughes D.W.;
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases
EMBL; M86213; AAA33066.1; .
MENDEL; 8406; Goshi;2374;8406.
INTERPRO; IPR001768; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gossypium hirsutum (Upland cott
Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
Malvaceae; Gossypium
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VASCULAR ENDOTHELIAL
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  Drosophila melanogaster (Fruit fly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                          2 RTKPEKCDKP,R
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                                                                                                                                                                                                                                   KAKKERCEKPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00234; tryp_alpha_amyl;
                                PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 6; Conserv
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64
139 p
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(TrEMBLrel. 14,
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dons; Rosidae; eurosids II;
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Last sequence
Last annotation
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Last
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a; Craniata; Vertebrata; Euteleostomi;
; Teleostei; Euteleostei; Ostariophysi
Cyprinidae; Rasborinae; Danio.
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2S ALBUMIN STORAGE F

2S ALBUMIN STORAGE F

02ACE24FFEC9EF90 C
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Pred.
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PROTEIN.
CRC64;
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Malvales;
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RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Dutbin K.J., Evangelista C.C., Ferrac C., Ferriera S., Fleischmann W.,
RA Dutbin K.J., Evangelista C.C., Ferrac C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibeywam C.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibeywam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Meison D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden K.Hanos I., Simpson M., Skupski M.P., Smith T.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Dang R., Sun E.,
RA Khenst W., Shong W., Zhong R., Sun E.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhong S., Zhu X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhong G., Zheng L.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhong G., Zheng L.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou S., Zhu X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou S., Zhu X., Smith H.O.,
RA Zheng X.H., Zhong G. Daveri J.S., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou S., Zhu X., Smith H.O.,
RA Zheng X.H., Zhong S., Zhou X., Smith H.O.,
RA Zheng X.H., Zhong A.H., Wang A., Zhong 
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Best Local :
             Bacteria;
                                                                                                                                                                                                                    01-NOV-1998
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                 084688;
                                                                              Chlamydia
                                                                                                                                                             PBP2-TRANSGLYCOLASE/TRANSPEPTIDASE.
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                                trachomatis.
Chlamydiales;
                                                                                                                                                                                                       (TrEMBLrel.
                                                                                                                                                                                                                                                                                                   (TrEMBLrel.
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08, Last sequence update)
13, Last annotation update)
                           Chlamydiaceae; Chlamydia
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6B1D1D6AA353830A CRC64;
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Best Local s
Matches 6
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Best Local
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01-NOV-1998
01-NOV-1998
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Q9R3NO;
01-MAY-2000
01-MAY-2000
01-MAY-2000
SEQUENCE FROM N.A.
Pfister P., Wasserfallen A.,
"Archaeophage PsiM2 complete
                                                                              HYPOTHETICAL 25.3 KDA PROTEII
Methanobacterium phage psiM2
Viruses; dsDNA viruses, no RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Complete DNA sequence and structural analysis Escherichia coli adherence factor plasmid."; Infect. Immun. 67:5455-5462(1999). EMBL; AB024946; BAA84884.1; -. EMBL; AB024946; BAA84864.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tobe T., Hayashi T.,
Sasakawa C.;
                                                                                                                                                                                                                           080201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Escherichia coli.
Plasmid pB171.
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Stephens R.S., Kalman s
Mitchell W.P., Ölinger
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SEQUENCE FROM N.A.
STRAIN=D/UW-3/CX;
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                                                                                                                                                                                                                                                                                                                            84
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les 6; Conservative
                                                                                                                                                                                                                                                                                                                                                               3 TKPEKCDKPRR 13
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                                                                                                                                                                                                                                                                                                                        TOPVKAEKPRE
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                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 7; Conserv
                                                                                                                   8 (Trimblrel. 08, Cre
8 (Trimblrel. 08, Las
8 (Trimblrel. 08, Las
AL 25.3 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      216 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                         PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ranspeptidase;
AA; 123959 MW;
                                                                                                                                                                                                                                                                                                                            94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24221 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                         51.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Han
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13,
13,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gamma subdivision; Enterobacteriaceae;
                                                                              RNA stage;
                                                                                                                                        Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                         Score 40;
Pred. No.
  Stettler R., Leisinger T., genomic DNA.";
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2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 41;
Pred. No.
                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schoolnik G.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5B11DD0E8B56FDFF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intracellular pathogen of
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                                                                            Tailed phages;
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                                                                              Siphoviridae
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RESULT
Q9V9F1
                            RA Amanatides P.G., Scherer S.E., H.J. F.W., EVANS C.A., Godayne J.D.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers R., Ann H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Backed J., Baryraktaroglu L., Beasley E.M.,
RA Benos P.V., Berman B.P., Bhandari D., Boshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Baryraktaroglu L., Beasley E.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Grayley S., Dahlke C., Davenport L.B., Davles P.,
RA Grayley S., Dahlke C., Davenport L.B., Davles P.,
RA Glodek N., Cougle J.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Hostin D., Houston K.A., Hewland T.J., Hernandes J.R., Houck J.,
RA Hostin D., Houston K.A., Hewland T.J., Hernandez J.R., Houck J.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
A Hasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Hount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Reinert K., Remington K.A., Nixon K., Nusskern D.R., Pacieb J.M.,
RA Reinert K., Remington K.A., Nixon K., Nusskern D.R., Pacieb J.M.,
RA Reinert K., Remington K., Stapbeton M., Skupski M.P., Shith T.,
RA Spier E., Spradling A.C., Stapbeton M., Skupski M.P., Shith T.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang E.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Ley G. W., R., Wa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Eukaryota; Meotera; Endopteryota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hypothetical SEQUENCE 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (MAY-1998) to the EMBL; AF065411; AAC27050.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-BERKELEY
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    FBgn0033015;
252 AA; 2
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216 AA; 2
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53.8%;
    CG2682.
9409 MW;
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13,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Last sequence
Last annotation
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F0C52F7C704B6C2F CRC64;
    5427B96D463B4929 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  annotation
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Query Match
Best Local Similarity
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RESULT
Q9SSL4
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Q9SGL4
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Best Local S
Matches 7
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Best Local
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                                                                                             Altafi H., Araujo R., Huizar L., Rowley D., Chen S., Harman P., Hicks R., Huerta M., Mason S., Siepel J., Zimmerman M., Buehler Dunn P., Gonzalez A., Kremenetskala I., Kim C., Lenz C., Li J., Liu S., Luros S., Schwartz J., Shinn P., Toriumi M., Vysotskaia Walker M., Yu G., Ecker J., Theologis A., Davis R.W.; Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AC008017; AAD55651.1; -. SEQUENCE 417 AA; 49108 Mm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9SGL4 PRELIMINARY;
Q9SGL4;
01-MAY-2000 (TrEMBLrel. 13, C
01-MAY-2000 (TrEMBLrel. 13, L
01-MAY-2000 (TrEMBLrel. 13, L
T18K17.20 PROTEIN.
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Q9SSL4;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B., Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barnstead M.E., Bowman C.L., White O., Nierman W.C., Fraser C.M.; Bowman C.L., White O., Nierman W.C., Fraser C.M.; "Arabidopsis thaliana chromosome I BAC T18K17 genomic sequence."; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids II;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Budicotyledons; Rosidae; eurosids II; Brassicales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T18K17.20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brassicaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F3N23.34 PROTEIN.
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ALIGNMENTS	A45294	S66479	A65019	A55819	S01717	S01718	T33596	T19327	T43291	T23064	S52629	S56203	S71558	JN0747	T24604	A54665	
		catechol oxidase (hypothetical prote	nonhistone chromos	Balbiani ring prot	Balbiani ring prot	hypothetical prote	hypothetical prote	laminin alpha chai	hypothetical prote	catechol oxidase (regulatory protein	probable cell wall	histone H1-I - Vol	hypothetical prote	netrin-1 precursor	

ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 C;Accession: S57956 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, submitted to the EMBJ Data Library, July 1995 A;Accession: S57956 A;Accession: S57956 A;Accession: S57956 A;Status: preliminary A;Molecule type: mRNA A;Residues: 1-146 <RED> A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351 밁 δÃ 밁 Ş Query Match Best Local Similarity Matches 16; Conserva Query Match Best Local Similarity Matches 16; Conserv 1 CECRPKKDRTKPEKCDKPRR 20 ||||||||: : |||||||| 101 CECRPKKDKARQEKCDKPRR 120 127 CECRPKKDKARQEKCDKPRR 146 1 CECRPKKDRTKPEKCDKPRR Conservative Conservative 84.2%; 84.2%; Score 101; DB 2; 80.0%; Pred. No. 7.1e-07; Live 2; Mismatches 2; 20 Score 101; DB 2; Pred. No. 8.3e-07; 2; Mismatches 2; Moor, R.M (domestic sheep) #text_change 05-Nov-1999 Length 120; Length 146 Indels Indels 0; 0; Gaps Gaps 0 0, Ç

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A; NOU-
R; Claffey, N.E.,
Piol. Chem. 7
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C; Species: Rattus norvegicus (Norway rat)
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A: Residues: 1-116; ER',119-190 <CLA>
A: Residues: 1-116; ER',119-190 <CLA>
A: Residues: 1-116; ER',119-190 <CLA>
A: Ross-references: GB: M95200; NID: g202350; PIDN: AAA40547.1;
A: Note: sequence extracted from NCBI backbone (NCBIN: 110665;
A: Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.;
Growth Factors 4, 53-59, 1990
A: Title: Conditioned madium from mouse sarcoma 180 cells cont
A: Reference number: A61029; MUID: 91197543
A: Accession: A61029
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A;Accession: A43351
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A;Title: Vascular endothelial growth factor.
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A; Note: sequence extracted from NCBI backbone (NCBIN:107622,
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A; Residues: 1-190 <BRE>
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                                                                                          Matches
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Residues: 1-190 <CON>
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Best Local :
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CECRPKKDRTKPENHCEPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD 186
                                                 CECRPKKDRTKPE--
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19; Conser
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29.7%;
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1; Mismatches
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NCBIP:110675)
Folkman, J.
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                                                                             R;Maglione, D.; Guerriero, V.; Viglietto, G.;
Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271,
A;Title: Isolation of a human placenta cDNA c
A;Reference number: A41236; MUID:920211031
A;Accession: A41236
                                                                                                                                                                              placental growth factor precursor - C; Species: Homo sapiens (man) C; Date: 19-Jun-1992 #sequence_revisi C; Accession: A41236
                   A; Molecule type: mRNA
A; Residues: 1-149 < MAG>
                                                        A; Status: preliminary
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C;Species: Mus musculus (house mouse)
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A;Accessiou: A;Accessiou: A;Accessiou: A;Accessiou: A;Molecule type: mRNA A;Rolecule type: mRNA A;Rolecule type: mRNA A;Residues: 1-1440,209-214 <BR2>
A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861 A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625) A;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y. J. Exp. Med. 172, 1535-1545, 1990 A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces endot
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A, Molecule type: protein
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C; Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C; Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C; Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C; Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
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A; Residues: 27-33 <CLA>
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous A; Reference number: $52136; MUID:95101726
A;Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1;
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R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau,
Development 114, 521-532, 1992
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b; Pred. No. 0.0
0; Mismatches
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A; Molecule type: mRNA
A; Residues: 1-140, 'N', 183-232 <HOUZ>
A; Accession: B41551
A; Status: nucleic acid sequence not sh
A; Molecule type: mRNA
A; Residues: 1-141, 227-232 <HOU>
R; Tischer; E; Mitchell, R; Hartman,
J, Biol. Chem. 266, 11947-11954, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; C;Species: Homo sapiens (man) C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1000 C;Accession: A41551; C41551 - B41551 - C;Accession: A41551; C41551 - B41551 - D41551 - 
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A;Cross-references:
A;Map position: 14q;
J. Biol. Chem. 266, 11947-11954, 1991
A;Title: The human gene for vascular endothelial
A;Reference number: A40454; MUID:91268072
                                                                                                                                                                                                                                                                                      A;Accession: C41551
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
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A; Residues: 1-232 <HOU1>
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Best Local Similarity
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Residues: 1-190 <SHA>
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Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change
                                                                                                                                                                                             Status: nucleic acid sequence not shown; not compared with conceptual translation
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                                                           Mitchell, R.; Hartman, T.; 266, 11947-11954, 1991
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14q24-14q31
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Pred. No. 0.01
4; Mismatches
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Pred. No.
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                                 growth factor. Multiple protein
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A;Cross recurred A;Cross recurred A;Cross recurred A;Cross recurred A;Map position: 6p21;6p12

G;Function:
A;Description: promotes fluid and protein leakage from blood vessels
A;Description: promotes fluid and protein leakage from blood vessels
C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular
F;1-232/Product: vascular endothelial growth factor 206 precursor #status prof;1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status prof;1-141,227-332/Product: vascular endothelial growth factor 121 precursor #status prof;1-141,227-332/Product: vascular endothelial growth factor 121 precursor #status prof;1-165/Domain: signal sequence #status predicted <SIG>
F;1-26/Domain: signal sequence #status predicted <SIG>
F;1-181/Binding site: carbohydrate (Asn) (covalent) #status predicted
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R;Weindel, K.; Marme, D.; Weich, H.A.
Biochem, Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in culture
A;Reference number: JQ1463; MUID:92231879
A;Accession: JQ1463
A;Accession: JQ1463
A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <WEI>
A;Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.
A;Experimental source: AIDS-Kaposi's sarcoma cell
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A; Residues: 1-165, 183-232 <KEC>
A; Cross-references: GB:M27281; I
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A;Molecule type: protein
A;Residues: 27-56;43-49,'R';72-76,'Q',78-81;59-71 <CON>
C;Comment: The most common of several alternatively spliced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Residues: 1-140,'N", 227-232 <WEZ>
A; Experimental source: ALDS-Kaposi's sarcoma
R; Connolly, D.T.; Olander, J.V.; Heuvelman, I
J. Biol. Chem. 264, 20017-20024, 1989
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A;Residues: 1-140,'N',183-232 <TI2>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973;
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A;Cross-references:
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A; Reference number: A34492; MUID: 90062112
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A; Residues: 1-140, 'N"
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A; Residues: 1-140,'N',183-232 <LEU>
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A; Accession: A40080
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A; Residues: 1-141, 227-232 <TI3>
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A; Residues: 1-165,183-232
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                                                                                       Best
                                                               Matches
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   CECRPKKDRTKPEK 14
                                                                                          Similarity
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GB:M63971;
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                                                                                          78.6%;
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                                                            Score 67; DB
Pred. No. 0.04
1; Mismatches
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rren, T.; Feder, J.; Connolly,
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onnolly, D
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A;Accession: A;Accession: A;Accession: A;Molecule type: protein
A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Residues: 27-31 <FER>
C;Reywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #stat
F;27-190/Product: carbohydrate (Asn) (covalent) #status
                                       A;Molècule type: DNA
A;Residues: 1-169,'HRKVSPQGKTQVRKRLQR',188,'KLLQR',194,'KPLQR',200,'KLQNQ',206,'RT',209-A;Cross-references: EMBL:M34331; NID:g171782; PIDN:AAA34720.1; PID:g171783
R;Ruecknagel, K.P.; Roffpert, S.
                                                                                                                                                                                                                           A; Experimental source: strain AB972
R; Repetto, B; Tzagoloff, A.
Mol. Cell. Biol. 10, 4221-4232, 1990
A; Title: Structure and regulation of KGD2,
A; Reference number: A35654; MUID:90318388
A; Accession: A35654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dihydrolipoamide S-succinyltransferase (EC 2.3.1.61) precursor - yeast (Saccinylternate names: alpha-ketoglutarate dehydrogenase complex chain KE2; dihy C;Species: Saccharomyces cerevisiae C;Date: 30-Sep-1991 #sequence_revision 12-Apr-1996 #text_change 05-May-2000 C;Accession: S57975; A35654; S78755; S11195
R;Murphy, L.; Richards, C.; Harris, D. submitted to the EMBL Data Library, July 1995
submitted
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A; Residues: 1-463 < MUR>
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Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Tittle: Pituitary follicular cells secrete a nov
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A; Residues: 27-190 <TIS>
A; Cross-references: GB: M31836;
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A; Accession: B33787
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A;Title: Vascular endothellal growth factor is a secreted anglogen: A;Reference number: A40080; MUID:90069608
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A; Residues: 1-190 <LEU>
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Pred. No. 0.05
3; Mismatches
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laminin beta-1 chain precursor - human
N;Alternate names: Laminin chain B1
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1991 #sequence_revision 30-Jun-1991 #text_change
C;Accession: S1347; 'A28483; A26994; S23566
R;Vuolteenaho, R; Chow, L.T.; Tryggyason, K.
J. Biol. Chem. 265, 15611-15616, 1990
A;Title: Structure of the human laminin B1 chain gene.
A;Reference number: S13547; MUID:90368768
A;Accession: S13547
A; Molecule type: DNA:

A; Residues: 1-1786 < YOO>

A; Cross-references: CB:M61951; GB:J02778; NID:g186911; PIDN:A;

A; Note: the nucleotice sequence was submitted to GenBank, Febb

R; Pikkarainen, T.; Eddy, R.; Fukushima, Y.; Byers, M.; Shows,
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A;Molecule type: DNA
A;Residues: 1-128 <FLA>
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Dev. Biol. 169, 699-712, 1995

A;Title: Vascular endothelial growth factor (VEGF) and A;Reference number: I51295; MUID:95301109
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: SGD:KGD2; MIPS:YDR148c
A;Cross-references: SGD:S0002555;
A;Map position: 4R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:S78343; NID:g999147; PID:g999148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession: I51295
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number: A; Accession: S78755
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Best Local S
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9; Conserv
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61.1%;
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47.48;
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Pred. No.
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Pred. No. 0
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                                                                                                                                                                                              translation
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1.7;
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PIDN:AAA59486.1; PID:g186913
nk, February 1991
Shows, T.; Pihlajaniemi, T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 128;
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F:923-927/Region: cell attachment
F:950-954/Region: cell attachment
F:956-1035/Domain: laminin-type EGF-like hom
F:1028-1081/Domain: laminin-type EGF-like hom
F:1028-1129/Domain: laminin-type EGF-like hom
F:1139-1176/Domain: laminin-type EGF-like hom
F:1139-1397/Domain: II < DOM2>
F:1179-1397/Region: heptad repeats
F:1398-130/Domain: alpha < ALP>
F:1398-130/Domain: I < DOM1>
F:1431-1786/Domain: I < DOM1>
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A;Residues: 1-1786 <PIK>
A;Residues: 1-1786 <PIK-
A;Coss-references: GB:M61951; GB:J02778; NID:g186911; PIDN:AAA59486.1; PID:g186913
R;Jaye, M.; Modi, W.S.; Ricca, G.A.; Mudd, R.; Chiu, I.M.; O'Brien, S.J.; Drohan, W. Am. J. Hum. Genet. 41, 605-615, 1987
Am. J. Hum. Genet. 41, 605-615, 1987
A;Title: Isolation of a cDNA clone for the human laminin-B1 chain and its gene local A;Reference number: A26994; MUID:88021029
A;Accession: A26994
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A:Cross-references: GDB:119357; OMIM:150240

A:Map position: 7q31.1-7q31.3

A:Introns: 13/1; 71/3; 117/1; 141/3; 204/3; 226/1; 293/3; 334/1; 397/1; 457/1; 494/3; 526/3; 1513/1; 1582/2; 1629/3; 1688/3; 1742/1

C:Complex: Laminins are trimers of an alpha-type, a beta-type, and a gamma-type laminin
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A;Residues: 1276-1469, 'V',1471-1695,'G',1697-1709 <JAX>
A;Residues: 1276-1469, 'V',1471-1695,'G',1697-1709 <JAX>
A;Cross-references: EMBL:M20206; NID:g186914; PIDN:AAA59487.1; PID:g186915
R;Vuolteenaho, R.; Kallunki, T.; Chow, L.; Ikonen, J.; Pikkarainen, T.; Trj
In Extracellular Matrix Genes, Sandell L.J. and Boyd C.D., eds., pp. 175-11
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A;Accession: S23566
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A;Title: Human laminin Bl chain. A multidomain protein with
A;Reference number: A28483; MUID:87280097
A;Accession: A28483
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A; Residues: 762-1786 < VU2>
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;773-818/Domain: laminin-type EGF-like homology
;775-1178/Domain: III <DOM3>
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                                                                                                                                                                                                                                                                    ;30-35/Disulfide bonds: #status predicted
;120,356,519,677,965,1041,1195,1279,1336,1343,1487,1542,1643/Binding site: carbohydrate
;1179,1182,1785/Disulfide bonds: interchain #status predicted
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                                                                                                           Matches
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1-548/Domain: V <DOM5>
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1 CECRPKKDRTKPEKCDK 17
                                                                                                       Similarity 9; Conserv
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                                                                                                                                       45.8%;
52.9%;
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                                                                                                                                    Score 55; I
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                                                                                                       Mismatches
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e homology <LE11>
e homology <LE12>
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<LE03>
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                                                                                                                                                                       Length 1786;
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pp. 175-193, Academic
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A;Reservant S05320 A;Accession: S05320 A;Accession: S05320 A;Accession: S05320 A;Molecule type: protein A;Molecule type: protein A;Molecule type: protein A;Residues: 457-466;854-868;932-946 <HAR> A;Residues: 457-466;854-868;932-946 <HAR> R;Mann, K.; Deutzmann, R.; Timpl, R. Eur. J. Blochem. 178; 71-80, 1980, Proteolytic fraces; 1980, Proteolytic fraces; 1980, Proteolytic fraces; 1980, Protein A; 1980, Protein A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNN A; McMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>A; Residues: 1292-1530,'MEMP',1535-1691,'C',1693-1748,'N',1750-1786 <BAR>A; Cross-references: EMBL:X05212; NID:952861; PIDN:CAA28839.1; PID:9809042 R; Deutzmann, R.; Huber, J.; Schmetz, K.A.; Oberbaeumer, I.; Hartl, L. Eur. J. Biochem. 177, 35-45, 1988 Eur. J. Biochem. 177; 35-45, 1988 A; Title: Structural study of long arm fragments of laminin. Evidence for 1 A; Reference number: S01790; MUID:89030693 A; Accession: S02036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: protein
A;Residues: 590-620 <MAN>
R;Barlow, D.P.; Green, N.M.; Kurkinen, M.; Hogan, B.L.M.
EMBO J. 3, 2355-2362, 1984
A;Title: Sequencing of laminin B chain cDNAs reveals C-terminal regions of coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-coiled-co
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A;Note: translation in GenBank has additional 48 residues at the amino end R;Fujiwara, S.; Shinkai, H.; Deutzmann, R.; Paulsson, M.; Timpl, R.
Biochem. J. 252, 453-461, 1988
A;Title: Structure and distribution of N-linked oligosaccharide chains on various A;Reference number: S02678; MUID:88326259
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C;Date: 28-Feb-1986 #sequence_revision 30-Jun-1991 #text_change 10-Dec-1999
C;Accession: A26413; CSC679; SOS326; S14877; A02871; SO2036; S13543
R;Sasakl, M.; Kato, S.; Kohno, K.; Martin, G.R.; Yamada, Y.
Proc. Natl. Acad. Sci. U.S.A. 84, 935-939, 1987
A;Title: Sequence of the cDNA encoding the laminin B1 chain reveals a multic A;Reference number: A26413; MUID:87147212
A;Accession: A26413
C;Keywords: basement membrane; calcium binding; cell b F;1-21/Domain: signal sequence #status predicted <SIG>F;22-1786/Product: laminin beta-1 chain #status predic
                                                                                                                                                                                                                                                                                                                                                                                        A; Map position: 12 C; Complex: Laminins are trimers of an alpha-type, a beta-type, and C; Function:
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A;Residues: 1561-1587 ADEU>
R;Paulsson, M.; Deutzmann, R.; Timpl, R.; Dalzoppo, D.; Odermatt, E.; Engel, J.
EMBO J. 4, 309-316, 1985
A;Title: Evidence for coiled-coil alpha-helical regions in the long arm of lami
A;Reference number: $13543; MUID:85257455
A;Accession: $13543;
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A; Residues: 28-42;932-946 <FUJ>
R; Hartl, L. Oberbaeumer, I.; E
Eur. J. Biochem. 173, 629-635,
                                                                                                                                                                                                                   A; Description: interact with cells and with other basement membrane proteins to C; Superfamily: laminin beta-1 chain; laminin-type EGF-like homology
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A; Residues: 1-1786 <SAS>
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RESULT 15
B49530
vascular endothelial growth factor homolog A2R, 14.7K - Orf virus و على المائلة و المائلة المائلة و المائلة ا
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A;Introns: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor related factor #status predicted
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A;Tille: Characterization of the murine VEGF-related factor gene.
A;Reference number: JC4679; MUID:96183052
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N;Alternate names: VRF 167 protein
C;Species: Mus musculus (house mouse)
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A; Residues: 1-188 < TOW>
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F;821-864/Domain: laminin-type EGF-like homology <LE07>
F;821-864/Domain: laminin-type EGF-like homology <LE07>
F;817-973/Domain: laminin-type EGF-like homology <LE09>
F;917-973/Domain: laminin-type EGF-like homology <LE10>
F;976-1025/Domain: laminin-type EGF-like homology <LE10>
F;1028-1081/Domain: laminin-type EGF-like homology <LE11>
F;1084-1129/Domain: laminin-type EGF-like homology <LE12>
F;1133-137/Domain: laminin-type EGF-like homology <LE12>
F;1133-139//Domain: laminin-type EGF-like homology <LE13>
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;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted;30-35/Disulfide bonds: #status predicted;30-35/Disulfide bonds: #status predicted;120,356,519,677,1041,1195,1279,1336,1343,1487,1533,1542,1643/Binding site: carbohydrat
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;1398-1430/Domain: alpha <ALP>
;1431-1786/Region: heptad repeats
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Best Local
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Similarity 52.9%;
9; Conservative
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A;Molecule type: DNA
A;Residues: 1-133 <LYT>
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ALIGNMENTS

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CAA616 1VPF 00072; 00072; 49; PI 73; PI 73; 1 1 1 1 1 1 2 1 6 5 5 5 5 AA;	Swiss I Swiss I Bisinfo profit this st ires a mail to		SEQUENCE FROM N:A. TISSUE-KIDNEY; TISSUE-KIDNEY; REDLINE; 97117958. Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., S Redmer D.A., Moor R.M.; Reynolds L.P., Moor R.M.; "Characterization and expression of vascular endot "Characterization and expression an	(Rel. 35 OOTHELIAL FACTOR) (Sheep). (Sheep). Metazoa; itheria; orinae;	STANDAI (Rel. 34,
1; 1. Glyco	y is copyright. It is nothitute of Bioinformat mattics Institute. The institutions as long atement is not removed atement is not removed license agreement (See license@isb-sb.ch).		Li J., Charn R.M.; d expression d expression	WTH F).	RD; PRT; Created) Last sequence
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HSSP; P15692; 2VGH.
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                                                                                                                                                                                                                EMBL; M32167; AAA41211.1;
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01-AUG-1990 (Rel. 15, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
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TISSUE SPECIFICITY: EXPRESSED IN THE PITUTTARY, IN BRAIN, IN PARTICULARLY IN SUPRAOPTIC AND PARAVENTRICULAR NUCLEI AND THE PARTICULARLY IN SUPRAOPTIC AND ABUNDANTLY IN THE CORPUS LUTEUM OF CHOROLD PLEXUS. ALSO FOUND ABUNDANTLY IN THE CORPUS LUTEUM OF
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                                  the European Bioinformatics Institute. There use by non-profit institutions as long as modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                   characterization of transcriptional and post-transcriptional regulatory sequences.";
J. Biol. Chem. 271:3877-3883(1996).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.
-i- SUBUNIT: HONODIMER, DISULFIDE-LINKED.
-i- SUBCELLULAR LOCATION: VEGF-1 AND VEGF-2 ARE SECRETED WHILE
                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A., "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                angiogenesis and endothelial cell differentiation. Development 114:521-532(1992).
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entities requires a license agreement (See http://www.isb-sibor send an email to license@isb-sib.ch).
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01-0CT-1996 (Rei 34,
VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
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MEDLINE; 92355593.
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                                                                                                                                                                   TO CELL-ASSCCIATION/HEPARIN-BINDING.
TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN
THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AN
KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL
GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF
VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED
                                                                                                                                                                                                                                                                                                                                                                                               HEPARIN.
                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: VEGF-1 AND VEGF-2
VEGF-3 REMAINS CELL-SURFACE ASSOCIATED (
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, Last annotation update)
, GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
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Best Local
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P49151;
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CONFLICT
SEQUENCE
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SIGNAL
                                                                                        BIOCHIM. BIOPHYS. ACTA 1260:235-238(1995).

BIOCHIM. BIOPHYS. ACTA 1260:235-238(1995).

FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND EN CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VAS PERMEABILITY (BY SIMILARITY).

FORMERABILITY (BY SIMILARITY).

FOR SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN
                                                                                                                                                                                                                                                           Eukaryota;
Mammalia; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                         MEDLINE: 95143284.

Sharma H.S., Tang Z.H., Gho B.C.H.,
"Nucleotide sequence and expression
endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                           PId.
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INTERPRO; IPR000
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                  Sus scrofa (Pig).
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200341; PDGF; 1.

200349; PDGF_1; 1

200249; PDGF_2; PS50278; PDGF_2; 1
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BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                    TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
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Pred. No.
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INTERCHAIN (BY SIMILARITY).
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ISSING (IN ISOFORM VEGF-2).
E -> ER (IN REF. 2).
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                                                                                                    SEQUENCE FROM N.A.
MEDLLNE; 91268072.
Tischer E., Mitchell R., Hartman T., Silv
Fiddes J.C., Abraham J.A.;
"The human gene for vascular endothelial
protein forms are encoded through alterna
                                                                                                                                                                                                                                                                                                                                                              Connolly D.T.;
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                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 90069609.
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                                                                                                                                                                                                                                                                                              Science 246:1309-1312(1989)
                                                                                                                                                                                                                                                                                                                                        "Vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science
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TE; PS00249; PDGF_1;
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  92231879.
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phgF; 1.
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Eutheria;
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                                                                                266:11947-11954(1991).
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growth
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wth factor
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VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
MM; 04D40B8D7913047F CRC64;
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2; Mismatches
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R PRECURSOR (
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angiogenic
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Structure 6:637-648(1998)
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIO CELL GROWTH. INDUCES ENDOTHELIAL PROLIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fiebich B.L., Jaeger B., Schoellmann C.,
Kochs G., Marme D., Hug H., Weich H.A.;
"Synthesis and assembly of functionally
endothelial growth factor homodimers in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Connolly D.T., Olander J.V., Heuvelman D., Nels Siegel N., Haymore B.L., Leimgruber R., Feder J "Human vascular permeability factor. Isolation J Biol. Chem. 264:20017-20024(1989).
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                                                                                                                                                                                                                Fairbrother W.J., Champe M.A.,
Starovasnik M.A.;
                                                                                                                                                                                                                                                                        "1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor."; Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                            Fairbrother W.J., Champe M.A.,
Starovasnik M.A.;
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Fairbrother W.J., Keenan C.J., Mer
"Crystal structure of the complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 refined to 1.93-A resolution: binding.";
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                                                                                                                                                                                                                                                  STRUCTURE BY NMR OF 137-215
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      de Vos A.M.;
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                                                                                              CELL GROWTH. INDUCES ENDOTHELIAL PROL
PERMEABILITY:
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
TO THE EXTRACELLULAR MATRIX UNLESS RE
                                                   SIMILARITY).
ALTERNATIVE PRODUCTS: FO
ALTERNATIVE SPLICING OF
VEGF-189 AND VEGF-215).
                                         SIMILARITY: BELONGS
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                                          TO THE PDGF/VEGF FAMILY
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                                                                  THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 factor: crystal structure and receptor binding site."; 94:7192-7197(1997).
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Meng G., de Vos A.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             multiple
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E SAME
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                                                                OF VEGF ARE PRODUCED BY GENE (VEGF-121, VEGF-165
                                                                                                                                                   PROLIFERATION
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      through a collaboration the EMBL outstation -
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VEGF BOVIN

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1 p15691;

1 01-APR-1990 (Rel. 14, Created)

1 01-APR-1990 (Rel. 14, Last sequence update)

1 01-OCT-1996 (Rel. 34, Last annotation update)

1 01-OCT-1996 (Rel. 34, Last annotation update)

1 VASCULAR EMDOTHELIAL GROWTH FACTOR PRECURSOR

1 PRINCE OF THE PROPERTY PACTOR) (VPF).
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Matches 11
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EMBL; M63978; AAA36804 1

EMBL; M63971; AAA36804 1

EMBL; M63972; AAA36804 1

EMBL; M63973; AAA36804 1

EMBL; M63974; AAA36804 1

EMBL; M63975; AAA36804 1

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EMBL; M63976; AAA36804 1

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EMBL; M63977; AAA36804 1

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EMBL; X62568; CAA44447 1
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PIR;
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                                                                                                                                                                                                                                                                                                                        SIGNAL
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Mitogen; Growth
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F00341; PDGF; 1.
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; PS50278; PDGF_2; 1
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1; Mismatches
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MISSING (IN ISOFORM VEGF-121).
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K -> N (IN ISOFORM VEGF-121 AND VEGF-165).
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PRECURSOR
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Ferrara N., Henzel W.J.;

"Pituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOCELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M32976; AAA30502.1; -. EMBL; M31836; AAA30804.1; -. EMBL; M33750; AAA30805.1; -. PIR; A33255; A33255.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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PROSITE; PS00249; PDGF_1; 1.
PROSITE: PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glycomitogen; Growth factor; Glycomitogen; Growth factor; Glycomitogen; Growth factor; Glycomitogen; Glyco
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PIR; A33787; A33787.
PIR; B40080; B40080.
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Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothellal growth factor: a new member
derived growth factor gene family.";
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[2]
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS A
SUBCELLULAR MATRIX UNLESS RELEASED
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HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
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-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.

-!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (
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187 KPRR 190
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-!- FUNCTION: GROWTH
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RT to Fit-1 but not to Fik-1/KDR.";

RT J. Biol. Chem. 269:25646-25654(1994).

C. -: FUNCTION: GROWTH FACTOR OF UNKNOWN FUNCTION. BINDS TO RECEPTOR CC VEGFR-1 (FLT1) THE LONGER FORM (FLGF-2) CAN ALSO BIND HEPARIN. IT CC IS ABLE TO POTENTIATE THE ACTION OF LOW LEVELS OF VEGF.

C. -: SUBCLILLAR LOCATION: BOTH FORMS ARE SCRETED BUT THE LONGER FORM CC APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN. IT CC APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN HERE);

C. -: SUBCLILLAR LOCATION: BOTH FORMS ARE SECRETED BUT THE LONGER FORM CC APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN HERE);

C. -: ALTERNATIVE PRODUCTS: 2 ISOFORMS; PLGF-1 DIFFERS FROM PLGF-2 IN LACKING A 21 RESIDUES SEGMENT IN THE C-TERMINAL SECTION WHICH CC INCRUMENT AND REPORT ON SECURIOR OF LOCATION AND MAMMARY OF THE LONGER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CC AND ONLY THE SHORTER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTAL CC AND ONLY THE SHORTER FORM IS FOUND IN THE COLON AND MAMMARY
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01-OCT-2000
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or send a
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"Isolation of a human placenta cDNA coding for a
the vascular permeability factor.";
Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(1991)
                                                                                                                                                                                                                                             the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHARACTERIZATION, AND SEQUENCE MEDLINE; 95014370.
Park J.E., Chen H.H., Winer J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (PLGF-2). MEDLINE; 93205407.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLACENTA GROWTH PGF OR PLGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oncogene 8:925-931(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Growth Factors 9:259-268(1993).
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                                                                                                                                                                                                                                                                                                                                                                                                                                PTM: N-GLYCO
SIMILARITY:
                              ; X54936; CAA38698.1;
; A18411; CAA01393.1;
;; S72960; AAB30462.2;
;; P15692; IVPF.
                                                                                                                                                                                         an
                                                                                                                                                                               requires a license agreement (See http://www.lsb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-GLYCOSYLATED
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(Rel. 34, Last sequence update)
(Rel. 40, Last annotation update)
OWTH FACTOR PRECURSOR (PLGF-1/PLGF-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                   BELONGS
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Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Winer J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                   TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ner J., Houck K.A., Ferrara N.;
Potentiation of vascular endothelial growth
itro and in vivo, and high affinity binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OF 19-24.
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Best Local S
Matches 8
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P19262;
O1-MOV-1990 (Rel. 16, Created)
O1-FEB-1996 (Rel. 33, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
D1HYDROLIPOANIDE SUCCINVITRANSFERASE COMPONEN
DEHYDROGENASE COMPLEX, MITOCHONDRIAL PRECURSO
W KGD2 OR YDR148C OR YD8358.05C.
W KGD2 OR YDR148C OR YD8358.05C.
                                                                                                                                                                                                                                                                                                                                                                                                            _YEAST
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SIGNAL 1
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                                                                                                                                                                                                                                   dihydrolipoyl transsuccinylase.";
Mol. Cell. Biol. 10:4221-4232(1990).
                                                                                                                                                                                                                                                     Repetto B., Tzagoloff A.; "Structure and regulation of KGD2,
                                                                                                                                                                                                                                                                                                               Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fung1; Ascomycota; Saccharomycetes;
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                                     INDUCTION: TRANSCRIPTIONALLY REGULATED BY THE HAP2 AND HAP3 PROTEINS. SIMILARITY: BELONGS TO THE 2-OXOACID DE SIMILARITY: CONTAINS 1 LIPOYL-BINDING I
                                                                              SUBCELLULAR /LOCATION: MITOCHONDRIAL.
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8; Conserv
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ROT entry is copyright. It is produced through a collaboration Swiss Institute of Bioinformatics and the EMBL outstation - Bioinformatics Institute. There are no restrictions on its
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57.1%;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
MISSING (IN ISOFORM PLGF-1).
D -> N (IN REF. 1).
D -> N (IN REF. 1).
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Pred. No.
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                                                2-OXOACID DEHYDROGENASE
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PRECURSOR
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P52582; 091420;
01-0CT-1996 (Rel. 34, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
JT 15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VF
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Best Local S
Matches
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HSSP; P10802; 1EAE.

SGD; S0002555; KGD2;

INTERPRO; IPR000089; -.

INTERPRO; IPR001078; -.

INTERPRO; IPR003016; -.

PFAM; PF00198; 2-oxoacid_dh; 1.

PFAM; PF00364; biotin_lipoy1; 1.

PROSITE; PS00189; LIPOYL; 1.
"Overaxpression of vascular endothelial growth factor in the embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formatioev. Biol. 171:399-414(1995).
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CONFLICT
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SPECIES-CHICKEN;
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                                                                               SPECIES=C.C.JAPONICA;
MEDLINE; 96005007.
Flamme I., von Reuter
                                                                                                                                                                                                                                                                                        Coturnix
                                                                                                            SPECIES-C.
                                                                                                                                                              Submitted
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                                                                                                                                                                                                                                                       Archosauria;
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                                                                                                                                                                                                                                                                    coturnix japonica (Ja
a; Metazoa; Chordata;
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(EN; TISSUE-HEART;
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REAVT -> EKLLS (IN REF. 1

MLLW -> CCYGDLKFAAHTNLIS

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KRT (IN REF. 1).
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DIHYDROLIPOAMIDE SUCCINYLTRANSFERASE
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Craniata; Vertebrata; Euteleostomi;
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DR PROSITE; PSO0249; PDGF_1; 1.

PROSITE; PSO0749; PDGF_2; 1.

PROSITE; PSO0749; PDGF_2; 1.

PROSITE; PSSO078; PDGF_2; 1.

REGISTAL PROSITE; PSSO078; PDGF_2; 1.

PROSITE; PSSO078; PDGF_2; 1.

BY SIMILARITY.

PT SIGNAL 1 26

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PT DISULFID 87 130

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INTERCHAIN (BY SIMILARITY).

PT DISULFID 86 86

INTERCHAIN (BY SIMILARITY).

PT CARBOHYD 101 101

PT VARSPLIC 142 142

VARSPLIC 143 166

PT VARSPLIC 165 166

PT VARSPLIC 167 210

MISSING (IN ISOFORM VEGF-146).

PT VARSPLIC 167 210

MISSING (IN ISOFORM VEGF-146).

SEQUENCE 216 AA; 25203 MW; 82E669C2F6FC6DA7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                   1_HUMAN
LMB1_HUMAN
P07942;
01-AUG-1988
01-AUG-1988
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Dev. Biol. 169:699-712(1995).
                                                 01-AUG-1988 (Rél. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUL-1999 (Rél. 38, Last annotation update)
LAMININ BETA-1 CHAIN PRECURSOR (LAMININ B1 CHAIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE; 95301109.
Flamme I., Breier G.,
"Vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 60-187 FROM SPECIES=C.C.JAPONICA;
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                   1 CECRPKKD-RIKPERCDK 17
|:|||||| ::| || || 28
28 CDCRPKKDVKNKQEKKSK 145
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RETENTION SIGNAL.
TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND
LIVER. IN KIDNEY GLOMERULL, BRAIN AND YOLK SAC, VEGF-166 FORM IS
5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.
DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PERMEABILITY
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61.1%;
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2; Mismatches
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FUNCTION: BIDDING TO CELLS VIA A HIGH AFFINITY RECEPTOR, LAMININ IS THOUGHT TO MEDIATE THE ATTACHMENT, MIGRATION, & ORGANIZATION OF CELLS INTO TISSUES DURING EMBRYONIC DEVELOPMENT BY INTERACTING WITH OTHER EXTRACELLULAR MATRIX COMPONENTS.

-!- SUBUNIT: LAMININ IS A COMPLEX GLYCOPPOTEIN, CONSISTING OF THREE DIFFERENT POLYPEPTIDE CHAINS (ALPHA, BETA, GAMMA), WHICH ARE BOUND TO EACH OTHER BY DISULFIDE BONDS INTO A CROSS-SHAPED MOLECULE COMPRISING ONE LONG & THREE SHORT ARMS WITH GLOBULES AT EACH END. THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ'.

-!- SUBCELLULAR LOCATION: EXTRACELLULAR.

-!- SUBCELLULAR LOCATION: EXTRACELLULAR.

-!- SUBCELLULAR LAMININ OWAINS I AND II ARE THOUGHT TO INTERACT WITH OTHER LAMININ CHAINS I AND II ARE THOUGHT TO INTERACT WITH OTHER LAMININ CHAINS I AND II ARE THOUGHT TO INTERACT WITH OTHER LAMININ OTHER GLOBULAR.

-!- SUMILARITY: CONTAINS 1 LAMININ N-TERMINAL DOMAIN VI).

-!- SIMILARITY: CONTAINS 1 LAMININ BGF-LIKE DOMAINS.

-!- SIMILARITY: CONTAINS 1 LAMININ DOWAIN IV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long modified and this statement is not remove entities requires a license agreement (SE or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pikkarainen T., Eddy R.,
Pihlajaniemi T., Saraste
"Human laminin Bl chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 90368768.
Vuolteenaho R., Chow L.7
"Structure of the human
J. Biol. Chem. 265:15611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Isolation of a cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it by non-profit institutions as long as its content is in no was
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J. Hum. Genet.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chow L.T., Tryggvason K. the human laminin B1 chain 265:15611-15616(1990).
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         INTERPRO; IPRO00561; -.
INTERPRO; IPRO01886; -.
INTERPRO; IPRO02049; -.
INTERPRO; IPRO02049; -.
PFAM; PF00053; 'laminin_EGF; 13.
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PS01248;
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V).
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IN EGF-LIKE 2.
IN EGF-LIKE 3.
IN EGF-LIKE 4.
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R HSSP; P03069; IZIM.

R INTERPRO; IPR000561; -.

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R INTERPRO; IPR002049; -.

R INTERPRO; IPR002019; -.

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R PFAM; PF0011; EGFLAMININ.

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R PROSITE; PS01186; EGF_1; 9.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EUR. J. BIOCHÉM. 246:727-735(1997).

FUNCTION: BINDING TO CELLS VIA A HIGH AFFINITY RECEPTOR, LAMININ IS THOUGHT TO MEDIATE THE ATTACHMENT, MIGRATION, & ORGANIZATION OF CELLS INTO TISSUES DURING EMBRYONIC DEVELOPMENT BY INTERACTING WITH OTHER EXTRACELLULAR MATRIX COMPONENTS.

FUNCTION OF CHAMININ IS A COMPLEX GLYCOPROTEIN, CONSISTING OF THREE DIFFERENT POLYPEPTIDE CHAINS (ALPHA, BETA, GAMMA), WHICH ARE BOUND TO EACH OTHER BY DISULFIDE BONDS INTO A CROSS-SHAPED MOLECULE COMPRISING ONE LONG & THREE SHORT ARMS WITH GLOBULES AT EACH END. THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMININ), LAMININ-1 (MEROSIN), AND LAMININ-6 (K-LAMININ).

SUBCELLULAR LOCATION: EXTRACELLULAR.

FUNDAMENTAL COMPONENT OF COMPONENT 
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"Sequencing of laminin B c
coiled-coil alpha-helix.";
EMBO J. 3:2355-2362(1984).
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RT Hayward N., Weber G.;
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RT Genome Res. 6:124-131(1996).
RT Genome Res. 6:124-131(1996).
RT Genome Res. 6:124-131(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 endothelial cells.
Proc. Natl. Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE; 97077124.
Grimmond S., Lager
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                             EMBL; U48801; AAB06274.1;
EMBL; U43369; AAA91463.1;
HSSP; P15692; IVPF.
MIM; 601398; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Olofsson B., Pajusola K., Kaipainen
Saksela O., Orpana A., Pettersson R
"Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGFB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN. SUBUNIT: HONDIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMI WITH VEGE.

SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.

TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                    ween the Swiss Institute of Bioinformat. European Bioinformatics Institute. Them by non-profit institutions as long a fired and this statement is not removed. Ities requires a license agreement (See lities requires a license edisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation burdean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
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9; Conserv
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396 (Rel. 34, Last sequence
398 (Rel. 37, Last annotati
ENDOTHELIAL GROWTH FACTOR
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1786
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Metazoa; Chordata; C
...+heria; Primates; (
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               21261 MW;
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Last annotation update)
GROWIH FACTOR B PRECURSOR
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                                                                         Signal;
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D ->
MW;
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Pred.
           al; Heparin-binding.

POTENTIAL.

VASCULAR ENDOTHELIAL GROWTH FACTOR

; F04654D5A3727194 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93:2576-2581(1996).
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846671B7BF41A474 CRC64;
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Alitalo K., Eriksson
a novel growth factor
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3.5;
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; Homo.
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HEPARIN.
HETERODIMER

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    RESULT 14
VEGB_MOUSE
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Best Local
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR ENDOTHELIAL GROWTH FACTOR BELATED PROTEIN) (VRF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ENDOTHEMAN, VEGETB OR VRF.
VEGETB OR VRF.
Mus musculus (Mouse).
Mus musculus (Mouse).
Mus musculus (Mouse).
Mus musculus (Mouse).
                                                                                                                                                                                                     the European Bloipformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                        Townson S., Lagercrantz J., Grimmond S., Silins G., Nordenskjoeld M., Weber G., Hayward N.K.;

"Characterization of the murine VEGF-related factor gene.";

Biochem. Biophys. Res. Commun. 220:922-928(1996).

-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                         EMBL; U48800; AAB06273.1;
EMBL; U43837; AAC52553.1;
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Olofsson B., Pajusola K., Kaipainen A., von Euler G., Joukov Saksela O., Orpana A., Pettersson R.F., Alitalo K., Eriksson "Vascular endothelial growth factor B, a novel growth factor endothelial cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Proc. Natl. Acad. Sci. [2]
                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                 -!- SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VEGB_MOUSE
                                                                PROSITE;
                                                                                                               (NTERPRO;
                                                                                                                            MGD; MGI:106199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CECRPKKDRTKPEKCDKPR 19
                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, KIDNEY
                                                                                                                                                                                                                                                                                                                                                                                                             WITH VEGF.
                                                                                                                                                                                                                                                                                                                           and skeletal muscle. Similarity: belongs to the pdge/vegf family of growth factors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CECRPKK-KDSAVKPDSPR 139
                                                                                             PRO; IPRO00072; -. PF00341; PDGF; 1.
    ps00249; pbgF; 1.
ps00249; pbgF_1; 1.
ps50278; pbgF_2; 1.
ps50278; pbgF_2; 1.
porewith factor; Signal; Heparin-binding.
porewith factor; Signal; Heparin-binding.
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21442
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57.9%;
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Pred.
   VASCULAR ENDOTHELIAL GROWTH D52A055FB995E9CA CRC64;
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                   FACTOR
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Query Match

43

Score 52.5;

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Length 188;

Search completed: Job time: 571 sec

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Matches 9
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1_ORFN2
VEGH_ORFN2
                                                                                                                                                                                                         DISULFID
DISULFID
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CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                               Mitogen;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J. Virol. 68:84-92(1994).

-!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Orf virus (strain NZ2) (OV Viruses; dsDNA viruses, no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; S67520; AAB29220.1; HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE; 94076465.
Lyttle D.J., Fraser K.M., Fleming
"Homologs of vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Parapoxvirus.
                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
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  112
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                                          CECRPKKDRTKPEKCDKPRR 20
CDCRPRETTTPPTTTRPPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRO; IPR000072; -
PF00341; PDGF; 1
                                                                                         Similarity
9; Conser
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PS50278; PDGF_2; 1.
Growth factor; Glycoprotein;
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67:
71:
61:
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133 A
                                                                                           Conservative
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                                                                                                                                                                                                              14715 MW;
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RNA stage; Poxviridae; Chordopoxvirinae;
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BY SIMILARITY.
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BY SIMILARITY.
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Pred.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC...) (POTENTIAL).
; 917C0F6883030C39 CRC64;
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L; Mismatches
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                                                                                       Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
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sp_virus:*
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sp_bacteria:*
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                                          O99qxg6 rattus norv
Q9uh58 homo sapien
O42571 xenopus lae
O63672 rattus norv
Q9qx39 spalax leuc
O73822 brachydanio
O9y658 homo sapien
O9xsf3 canis famil
O75875 homo sapien
O9xsf4 canis famil
O75876 nomo sapien
O9xsf5 canis famil
O75876 canis famil
O77643 ovis aries
O9u123 homo sapien
O77643 ovis aries
O9u123 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
bos taurus
bos taurus
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
47	47	47	47	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	49.5	49.5	49.5	49.5	50	50	50.5	50.5	51	51	51	52	53	53.5
•	•	•	39.2	•	40.4	•	40.4	40.4	40.4	40.4	40.4		41.2	•	41.2	41.7	41.7		•	42.5	•	•	43.3	44.2	44.6
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Q9ZS85	Q23773	Q63434	035485	Q94438	Q9QY50	095631	042140	811600	042203	013128	088911	Q94446	Q9TVQ2	000634	054881	Q83927	Q9STN7	042572	P79199	Q64290	Q23765	Q23779	057484	Q16528	Q9VH54
Q9zs85 arabidopsis	Q23773 chironomus	Q63434 rattus norv	O35485 rattus norv	Q94438 chironomus	Q9qy50 mus musculu	095631 homo sapien	O42140 brachydanio		O42203 brachydanio		O88911 rattus norv	Q94446 chironomus	Q9tvq2 caenorhabdi	000634 homo sapien		Q83927 unidentifie		2 xen	ο.	Q64290 mus musculu	Q23765 chironomus	\circ	4		Q9vh54 drosophila

ALIGNMENTS

RESULT 2 Q9UH58 ID Q9UH58 PREJIMINARY; PRT; 147 AA. AC Q9UH58; DT 01-MAY-2000 (Trimblifel 13, Created) DT 01-MAY-2000 (Trimblifel 14, Last annotation upd DT 01-JUN-2000 (Trimblifel 14, Last annotation upd VASCULAR ENDOTHILIAL GROWTH FACTOR ISOFORM 12	Query Match Best Local Similarity 100.0%; Pred. No. 1.4e- Matches 20; Conservative 0; Mismatches Qy 1 CECRPKKDRTKPEKCDKPRR 20	SEQUENCE FROM N.A. SEQUENCE FROM N.A. Ishii H., Arakawa T., Okayama M "Developmental expression of va "Developmental expression of va (VEGF-A) splicing variants, VEG masseter muscle."; Submitted (DEC-1999) to the EMB EMBL; AF215726; AAF19212.1; INTERPRO; IPR003072; PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1. PROSITE; PS00249; PDGF; 1. SEQUENCE 146 AA; 17161 MW;	RESULT 1 Q9QXG6 PRELIMINARY; PRT; 146 AA. ID Q9QXG6; PRELIMINARY; PRT; 146 AA. C9QXG6; PRELIMINARY; PRT; 146 AA. DT 01-MAY-2000 (TIEMBLITEL 13, Created) DT 01-MAY-2000 (TIEMBLITEL 14, Last annotation und the component of t
PRT; 147 Created) Last sequence Last annotati FACTOR ISOFOR	0%; Score 120; 0%; Pred. No. 1 0; Mismatches 20	Okayama M., Oota I., Takuma T., Inomata K.; sion of vascular endothellal growth factor A lants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat to the EMBL/GenBank/DDBJ databases. 1212.1; 1. 1. 1. 1. 1. 1. 1. 1. 1.	PRT; 146 Created) Last sequence Last annotati FACTOR-A120. a; Craniata; Va; Sciurognat)

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Matches
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O1-JAN-1998 (TremBirel. 14, L
O1-JUN-2000 (TremBirel. 14, L
VASCULAR ENDOTHELIAL GROWTH F
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Best Local S
Matches 17
                  Q63672
Q63672; Q63882;
Q63672; Q63882;
Q1-NOV-1996 (TEMBLrel. 01, C:
Q1-NOV-1996 (TEMBLrel. 3, L:
Q1-MAY-2000 (TEMBLrel. 13, L:
VASCULAR ENDOTHELIAL GROWTH F.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                          Cleaver O., Tonissen K.F., Saha Submitted (JUN-1997) to the EMBL EMBL; AF008593; AAB63679.1; -. HSSP; P15692; IVPP. INTERPRO: IPRO00072; -. PFAM: PF00341; PDGF; 1. PROSITE; PS00049; PDGF; 1. PRODOM; PD001629; -; 1. SEQUENCE 148 AA; 17234 MW; 4
          Mammalia;
                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                  xenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                                Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Human cDNA for vascular endothelial growth factor isoform Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AF214570; AAF19659.1; -. INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1.
                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
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                                                                                                                                                                                         l Similarity 71.
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           Eutheria;
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         Chordata;
Rodentia;
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Primates;
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85.0%;
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H FACTOR (VEGF188) (FRAG
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e EMBL/GenBank/DDBJ databases.
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Pred. No. 1.2e
4; Mismatches
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Pred.
     Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL.
DDF4D6994249BED6 CRC64;
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                                                                                                                                                                                                                                             4AD153CA2F8B1E95 CRC64;
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No. 3.
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SEQUENCE FROM N.A.

Ishii H., Arakaya T., Okayama M., Ocalishii expression of vascula expension of vascula (VEGF-A) splicing variants, VEGF-Al8 masseter muscle."

Submitted (DEC-1999) to the EMBL/Gen EMBL; AF215725; AAF19211.1; INTERPRO; IPRO000072; IPRO0041; PEGF; 1.

PROSITE; PS00245; PDGF; 1.

PROSITE; PS00245; PDGF; 1.

SEQUENCE 214 AA; 25239 MW; 60FBE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local :
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Q9QXG7;
Q1-MAY-2000 (TrEMBLrel. 13, C.
Q1-MAY-2000 (TrEMBLrel. 13, L.
Q1-JUN-2000 (TrEMBLrel. 14, L.
VASCULAR ENDOTHELIAL GROWTH F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-CD; TISSUE-LUNG;
Kim I., Ryan A., Rohan R., A
Miller J., Adamis A.P.;
Submitted (MAY-1998) to the
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFAM; PF00341; PDGF;
NON_TER 1 1 SEQUENCE 102 AA; 1
                                                                                                               127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 29-52 FROM N.A. STRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN; Yakovlev A.G., Faden A.I.; Submitted (JUL-1993) to the EMBL/Gen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Expression of vascular endothelial growth factor endothelial celis from brain microvessels."; Biochem. Biophys' Res. Commun. 194:799-803(1993). EMMBL; AP062644; AAC16448.1; -. EMMBL; L20913; AAA42334.1; -. EMMBL; S64321; CAB32322.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 29-51
MEDLINE; 93343939
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                                                                                                                                                                                            Local Similarity 100 ues 14; Conservative
                                                                                                                                    1 CECRPKKDRTKPEK 14
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                                         σ
                                                                                                          CECRPKKDRTKPEK
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692; 2VGH.
; IPR000072; -.
pDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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100.0%
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VEGF-A188,
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Last annotation updat
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                                                                                                                                                                                                                 Score 83;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                       60FBB876F5304946 CRC64;
                                                                                                                                                                                            Mismatches
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red. No. 2.8e-05;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     214
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endothelial growth factor-A
, VEGF-A164, and VEGF-A120 i
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; Murinae; Rat
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Q9QX39

PRELIMINARY;

PRT;

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Best Local S
Matches 12
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Best Local Similarity
Matches 17; Conserv
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O1-MAY-2000 (TIEMBLIEL. 13, Cr
O1-MAY-2000 (TIEMBLIEL. 13, La
O1-JUN-2000 (TIEMBLIEL. 14, La
VASCULAR ENDOTHELIAL GROWTH F.
                                                                                                                                                                                                 HSSP; P15692; IVPF.
INTERRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 144 AA; 16479 M
                                                                                                                                                                                                                                                                                                               Liang D., Ge R.;
Submitted (APR-1998) to the
EMBL; AF059661; AAC14713.1;
HSSP; P15692; 1VPF.
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01-AUG-1998 (TrEMBLrel. 07,
01-AUG-1998 (TrEMBLrel. 07,
01-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
"Adaptive hypoxic tolerance in the subterranean mole
ehrenbergi: the role of vascular endothelial growth f
FEBS Lett. 452:133-140(1999).

EMBL; AF186236; AAD56245.1;
-
INTERPRO; IFR0000772;
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PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
Spalax.
[1]
                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vert
Actinopterygii, Reopterygii; Teleostei, Eute
Cypriniformes; Cyprinoidea; Cyprinidae; Rasb
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125
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                       1 CECRPKKD-RTKPEKCDKPR 19
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CECRPKAEVKAKKERCEKPR
                                                                                        l Similarity
12; Conserv
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144
                                                                                                                                                                                                        MW;
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Last sequence update)
Last annotation update)
FACTOR 121 ISOFORM.
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                                                                                     Score 71.5; I
Pred. No. 0.00
4; Mismatches
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Pred. No. 0.00
2; Mismatches
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Euteleostei; Ostariophysi;
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0.002;
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                                                                                                                                13;
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Best Local Similarity
Matches & 16; Conser
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Best Local Similarity
Matches 12; Conserv
                                                                                                                                            Jingjing L., Roque R.S.;
Submitted (Mar. 1999) to the E
EMBL; AR133248; AAD39682.1; -
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
                                                                                                                                                                                                                                                                                                      Q9XSF3 PRELIMINARY;
Q9XSF3;
Q9XSF3;
Q1.NOV-1999 (TrEMBLrel. 12, C
Q1.NOV-1999 (TrEMBLrel. 12, L
Q1.JUN-2000 (TrEMBLrel. 14, L
VASCULAR ENDOTHELIAL GROWTH F
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EMBL; AC006530; AAD30179.1; -
INTERPRO; IPRO00072; -
PEAM; PE00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 149 AA; 16725 MW;
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Q9Y6S8;
Q1-NOV-1999
Q1-NOV-1999
Q1-JUN-2000
                                                                                                                                                                                                                                                   VEGF.
Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Rowen L., Madan A., Qin S.,
Tasky S., Madan l
                                                                                                                                                                                                                         SEQUENCE FROM N.A. TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Sequencing of human chromosome 14.";
Submitted (MAY-1999) to the EMBL/GenB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Loretz C., Lasky S.,
Hood L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIGF.
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                                            127
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187 KPRR
                     17 KPRR 20
                                                        1 CECRPKKDRTKPE---
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                                         CECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCD
190
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                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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Last annotation update)
FACTOR 164.
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Last sequence update)
Last annotation update)
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Pred. No. 0.00
4; Mismatches
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A., Prescott
                                                                                       ?:
                                                                                       Score 69; DB Pred. No. 0.00 2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                PRT;
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                                                                                                                                              2053500BC9085CE0 CRC64;
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                                                                                                            Length 190
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                                                                                                                                                                                                                                                           Euteleostomi;
Canis.
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075875;
075875;
01-NOV-1998 (Trembirel. 0
01-NOV-1998 (Trembirel. 0
01-JUN-2000 (Trembirel. 1
01-JUN-2000 (Trembirel. 200W
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Q9XT61;
Q9XT61;
Q1-NOV-1999;
Q1-NOV-1999;
Q1-MAY-2000;
Q1-MAY-2000;
                                                                                                                                                                                                    PFAM; PF
                                                                                                                                                                                                                                                                                                           eyes."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
Abrams K.R., Lee S.W., Detmar M.;
"Identification of a human VPF/VEGF 3' untranslated region mediating
hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPRO00072: -
PFAM; PF00341; PDGF; 1.
PFODOM; PD001629; -; 1.
SEQUENCE 191 AA; 22320 MW; B5E435838C72715B CRC64;
                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                    Submitted (NOV-1998) to the
                                                                                                                                                                                                                                                                                                                                                                         Kim I.K., Ryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                             rissue=Lung;
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGE
                                                                                                                                                                                                                                                                                                                                                       damis A.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VASCULAR ENDOTIBLIAL GROWTH FA
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                               Constitutive expression
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                188 KPRR 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  128
1 CECRPKKDRTKPEK 14
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PRO; IPR000072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCSCKNTHSRCKARQLELNERTCRCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KPRR 20
                                                                                                                                                                                                                 PF00341; PDGF;
                                                                                             Similarity-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16; Conservative
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                                                                                                                                                                              102 AA; 12065 MW;
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                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                     А.М.,
                                                                                         55.8%;
78.6%;
                                                                                                                                                                                                                                                                                                                                                                     Rohan R.,
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25.0%;
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                                                                                                                                                                                                                                                                                                                          VEGF,
                                                                  Score 67; DB
Pred. No. 0.00
1; Mismatches
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Last annotation updat
FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
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                                                                                                                                                                       5F2D1A765DC29E02 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
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0.0054;
                                                                                       DB 6;
0.0062;
                                                                                                                                                                                                                                                                                                                                                                  Aqular S., Miller J.W.
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                                                                                                        Length 102
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                                                                Gaps
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Q9XSF4
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Best Local
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PKLIJAN-
O60720;
O60720;
O1-AUG-1998 (TREMBLrel. 07, Created)
O1-MAY-1999 (TREMBLrel. 10, Last sequence update)
O1-MAY-1999 (TREMBLrel. 14, Last annotation update)
VEGF183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GRO
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Submitted (MAR 1999) to the EMBI
EMBL; AF133249; AAD22683.1; -
INTERPO, IPRO0072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400 MW; (
                                         Signal.
SIGNAL
CHAIN
                                                                                                                                                                                                                                                              Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF062645; AAC16730.1;
                                                                                                                        PFAM; PF00341; FDGF; 1.
PROSITE; PS00249; PDGF;
PRODOM; PD001629; -; 1.
            SEQUENCE
                                                                                                                                                                                                                     INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human, Turarvota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 114-209 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE; 99096474.
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[1]
                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=RETINA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lei J., Jiang A., Pei D.;
"Identification and characterization
"sscular endothelial growth factor: V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-KIDNEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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Eukaryota; Metazoa; Chordata; C
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1999 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
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                                                                                                                                                                                                                        IPR000072; -.
         27
209 i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 s (Human).
Metazoa; Chordata; C
Metazoa; Primates; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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            ŘΑ;
      26
209
24422
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Gene Struct.
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12,
14,
            ¥.
                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
POTENTIAL.
VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
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Pred. No. 0.01
1; Mismatches
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Last annotation update)
FACTOR 182.
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i; Hominidae; Homo.
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                   Mol. Endocrinol. 5:1806-1814(1991).
EMBL; S85192; AAC63102.1; -.
EMBL; S85224; AAC63101.1; JOINED.
EMBL; S85199; AAC63101.1; JOINED.
EMBL; S85201; AAC63101.1; JOINED.
EMBL; S85201; AAC63101.1; JOINED.
EMBL; S85219; AAC63101.1; JOINED.
HSSP; P15692; ZVPF.
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PFAM; PF00341; PDGF; 1.
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TISSUE-HEART;
Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
INTERPRO; IPRO007072; -.
INTERPRO; IPRO007072; 1.
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Q1-NOV-1996 (TrEMBLrel. 01,
Q1-NOV-1998 (TrEMBLrel. 08,
Q1-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                  Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W., "The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR 188.
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ALIGNMENTS

A; Cross-references: GB:338083; NID:g249858; PIDN:AAB22253.1; PID:g249859 A; Experimental source: embryo A; Mote: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623) R; Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992 A; Title: Vascular endothelial growth factor. Regulation by cell differentiation in A; Reference number: A43351; MUID:9235593 A; Recession: A43351 A; Molecule type: mRNA A; Residues: 1-116, 'ER', 119-190 <CLA> A; Note: sequence extracted from NCBI backbone (NCBIN:10665, NCBIP:110675) A; Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J. Cross-references: 3B:M95200; N.F.; Henzel, W.J.; Ferrara, N.; Folkman, J. Cross-references: 3B:M95201, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J. C; Accession: B44881; A43351; A61029 R; Breier, G.; Albrecht, U.; Sterrer Development 114, 521-532, 1992 C;Species: Mus musculus (house mouse) C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999 A;Title: Expression of vascular endothelial growth A;Reference number: A44881; MUID:92274860 A;Accession: B44881 A;Molecule type: protein A;Residues: 27-38 <ROSS> C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; A; Molecule type: mRNA A; Residues: 1-190 <BRE> δÃ A; Reference number: A; Title: Conditioned medium Growth Factors 4, 53-59, vascular endothelial growth factor-1 precursor - mouse A; Accession: A61029 Matches 27 Local 1 APTTEGEQKSHEVIKFMDVY APTTEGEOKS SEVIKEMDVY 20; Similarity 100 20; Conservative d medium from mouse sarcoma 180 cells contains vascular A61029; MUID:91197543 1990 92.1%; 100.0%; Sterrer, S.; Risau, 20 Score 105; DB ; Pred. No. 7.2 0; Mismatches DB 2; 7.2e-10 factor during 0 Length 190; embryonic angiogenes 0; Gaps glycoprotein endothelia 0 and

serine proteinase

RESULT 2
A44881; Pareier, G.; Albrecht, U.; Sterrer, S.; Risau, W.

vascular permeability factor

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A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that A;Reference number: A35987; MUID:90207249
                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Conn,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 glioma-derived vascular endothelial cell growth factor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
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vascular endothelial growth
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A; Residues: 27-33 <CLAS
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa,
Biochim. Biophys. Acta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms
A; Reference number: $52136; MUID:95101726
A; Accession: $52136
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A;Accession: A60932
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A; Status: preliminary
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A; Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678)
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A; Reference number: A44881;
A; Accession: A44881
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                                                                                                                                                                                                                                                                                                          Molecule type: mRNA
Residues: 1-190 <CON>
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Best Local
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18; Conserv
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4881; MUID:92274860
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90.0%;
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Pred. No.
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0, 1994
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NCBIP: 107625)
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A; Molecule type: mRNA
A; Residues: 1-190 (LEU)
A; Residues: 1-190 (LEU)
A; Cross-references: (B:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.;
Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A; Title: Vascular endothelial of the platelet-
                                                                                                                                                                                                                                                                R; Leung, D.W.; Cachianes, G., Science 246, 1306-1309, 1989
A; Title: Vascular endothelia
A; Molecule type: mRNI.
A; Residues: 27-190 < TIS>
                                             A; Reference number: £33787; A; Accession: B33787
                                                                                                                                                                                                                                                                                                                              vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080; B33787; A33255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial.growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999 C;Accession: A33787 R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; La
                                                                                                                                                                                                                           A; Accession: B40080
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A; Residues: 1-120 <TIS>
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A; Accession: A33787
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived
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C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change
C;Accession: S52130
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A; Residues: 1-190 <SHA>
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75.0%;
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                                                                      MUID:90121225
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GB:M31836; el, W.J.

NID:g163808;

PIDN:AAA30804.1;

PID:g163809

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C; Species: Ovis ories
C; Date: 13-Jan-1996;
C; Accession: S57956
R; Redmer, D.A.; Dai,
                                                                                                                                                                                    R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995
A;Reference number: S57956
                                                                                                                                                                                                                                                                     ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
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A;Title: Purification and NH-2-terminal amino A;Reference number: A60544; MUID:90167668
A;Accession: A60544
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A;Title: Tumor vascular permeability factor stimulates endothelial cell growth and angio A;Reference number: A60706; MUID:90037570
A;Accession: A60706
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N;Alternate names: vascular permeability factor
C;Species: Cavia porcellus (guinea pig)
C;Date: 14-May-1993 **sequence_revision 14-May-1993 **text_change 17-Mar-1999
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A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Keywords: alternative splicing; glycoprotein
E;1-26/Domain: signal sequence #status predicted <SIG>
E;27-190/Product: vascular endothelial growth factor #status predicted
E;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                               A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351
                                                                                                                                                A; Status: preliminary
                                                                                                                                                                      A; Accession: S57956
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C; Keywords: mitogen
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A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor
A;Reference number: A33255; MUID:89286596
A;Accession: A33255
  Query Match
Best Local Similarity
                                                                                                         Residues: 1-146 <RED>
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1; Mi
  Score
Pred.
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Pred. No. 6.7e
1; Mismatches
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Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
No.
  DB 2;
1.1e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence of guinea pig tumor-secreted
                                                                                                                                                                                                                                                                       (domestic sheep)
#text_change 05-Nov-1999
                     Length 146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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R; Weindel, K.; Marme, D.; Weich, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A; Title: AIDS-associated Kaposi's sarcoma cells in A; Reference number: 301463; MUID:92231879
A; Accession: J01463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Accession.

A; Molecule type: DNA

A; Molecule type: DNA

A; Residues: 1-165,183-232 <TII>
A; Residues: GB:M63971;
                                                                                                                                                                                                                                                                                                                  A;Cross-references: SB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301 R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246; 1306-1309; 1989
A;Title: Vascular enJothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608
A;Accession: A40080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA,
A;Residues: 1-140,'N',183-232 <TI2>
A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974;
A; Molecule type: mRNA
A; Residues: 1-140, 'N', 183-232
                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-140, 'N', 183-232 <LEU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-165,183-232 <KEC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; R;Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Poscience 246, 1309-1312, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A; Accession: A40079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Title: Vascular permeability factor, an A; Reference number: A40079; MUID: 90069609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA.
A; Residues: 1-141, 227-232 <TI3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; J. Biol. Chem. 266, 11947-11954, 1991
A;Title: The human gene for vascular endothelial growth factor. Multiple protein form A;Reference number: A40454; MUID:91268072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-141,227-232 <HOU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;HOUCk, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
MO1. Endocrinol. 5, 186-1814, 1991
A;Title: The vascular endothelial growth factor family: identification of a fourth
A;Reference number: A41551; MUID:92168017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
                                                                                                                                                                                                      A;Cross-references: 3B:M32977;
                                                                                                                                                                                                                                                                                    A;Status: not compared with conceptual translation
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A; Residues: 1-140, 'N',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: nucleic acid sequence not shown
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A; Residues: 1-232 <HOU1>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                                                                                             NID:g181970; PIDN:AAA35789.1; PID:g181971
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                                                                                                            culture
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                                                                                                            express vascular endotheli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mitogen related to PDGF
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EMBL: X62568;

NID: 937658; PIDN: CAA44447.1;

PID:g37659

<IIV

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hypothetical protein T20B5.12 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 14-May-1999 C;Accession: T00756 C;Accession: T00756 Till Arabidopsis thaliana cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Experimental source: clone C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular protein-1232/Product: vascular endothelial growth factor 206 precursor *status predicted <VZC product: vascular endothelial growth factor 189 precursor *status prediction-1165,183-232/Product: vascular endothelial growth factor 121 precursor *status prediction-1141,227-332/Product: vascular endothelial growth factor 121 precursor *status prediction-1141,227-332/Product: vascular endothelial growth factor 121 precursor *status prediction-1141,227-332/Product: vascular endothelial growth factor 121 precursor *status prediction-1141,227-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Production-1141,237-332/Prod
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A; Map position:
A; Introns: 66/3
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A; Residues: 1-360 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        submitted to the EMBL Data Library, A; Reference number: Z19309
A; Accession: T20686
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
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A;Map position: 6p21-6p12
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A; Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <CON>
C; Comment: The most common of several alternatively spliced
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R;Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.
J. Biol. Chem. 264, 20017-20024, 1989
A;Title: Human vascular permeability factor. Isolation from U937 cells.
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A; Residues: 1-140,'N',227-232 <WE2>
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                                                                                                                                                              T00756
                                                                                                                                                                                             RESULT
Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene: CESP:F10A3.13
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                                                                                                                                                                                                                                                                                    160 EMKDEEVIPEFLDVYC 175
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66.7%;
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Pred. No. 4.5;
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            R.C.; Sykes, S.M.;
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T18572
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A; Residues: 1-2272 < VIII>
A; Cross-references: EMBL
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A; Introns: 35/3
A; Note: T20B5.12
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A; Gene: SCC
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A; Residues: 1-180 <OLI>
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A; Residues: 1-436 < ROU>
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Watches 8; Conserv
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               3 TTEGEQKSHEVIK 15
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9; Conserv
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8; Conserv
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gag, pol and env protein precursor - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
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A;Experimental source: cultivar Columbia
C;Genetics:
                                                                                                                                                                                                                                   R;Oliver, K.; Harris, D.; Bentley, S.D.; Parkhill, J.; Barrell, submitted to the EMBL Data Library, February 1999
A;Reference number 221559
A;Accession: T34851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      submitted to the EMBI Data Library, September 1994 A;Reference number: Z18980 A;Accession: T18572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   submitted to the EMBL Data Library, November 1997 A;Description: Arabidopsis thaliana chromosome II A;Reference number: %14159 A;Accession: T00756
                                                                                                                                                                                                                                                                                                                                    C;Species: Streptomyces coelicolor
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 05-Nov-1999
                                                                                                                                      A; Experimental source: strain A3(2)
                                                                                                                                                        A;Cross-references: EMBL:AL035478; PIDN:CAB36605.1; GSPDB:GN00070; SCOEDB:SC2G5.18c
                                                                                                                                                                                                              A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                             probable secreted protein – Streptomyces coelicolor
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                38.6%;
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53.3%;
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47.18;
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Pred. No. 8
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Pred. No. 9
Mismatches
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Indels
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R;McGehee Jr., R.E.; Habener, J.F.

Mol. Endocrinol. 9, 487-501, 1995
A;Title: Differentiation-specific element binding protein (DSEB) binds to a defined element of differentiation of 3T3-L1 adipoblasts to adipocytes.

A;Reference number: A56284; MUID:95388065
Search completed: November 9, 2000, 15:31:59 Job time: 180 sec
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                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Molecule type: mRNA A;Residues: 1-1130 <MCG> A;Cross-references: GB:U36441; NID:g1022775; PIDN:AAA79698.1; PID:g1022776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             differentiation-specific element binding protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 05-May-1995 #sequence_revision 05-May-1995 #text_change 28-May-1999
C;Accession: A56284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number: Z21910
A; Accession: T40193
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DMA
A; Residues: 1-405 <WOOD
A; Cross-references: EMBL: Z97992; PIDN:CAB10798.1; GSPDB:GN00067; SPDB:SPBC30D10.03c
A; Experimental source: strain 972h-; cosmid c30D10
C; Genetics:
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R;Wood, V.; Rajandream, M.A.; Barrell, B.G.; Lauber, J.; Hilbert, H.; Duesterhoeft, A. submitted to the EMBL Data Library, February 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein SPBC30D10.03c - fission yeast (Schizosaccharomyces pombe) C;Species: Schizosaccharomyces pombe C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999 C;Accession: T40193
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T40193
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                                                                                                                                                                                                                                    Query Match 38.6%; Score 44; DB 2; Length 1130; Best Local Similarity 44.4%; Pred. No. 59; Matches 8; Conservative 4; Mismatches 6; Indels
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Best Local Similarity 45.0%;
Matches 9; Conservative
                                                                                                                                   994 TSQGVEGAQHVIKLMDTY 1011
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142 TIEGEEKSFDVEK 154
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Pred. No. 20;
2; Mismatches 9; Indels
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Perfect score:
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   3320098775433100987754331009877543310098775433100987754331009877543310098775433100987754331009877543
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Maximum Match 100%
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Gapop 10.0 , Gapext 0.5
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16.039 Million cell updates/sec
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RS27_SCHPO
Y780_METUA
EFTU_MYCGA
RAPS_CHICK
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VEGE_PIG
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VEGE_HUMAN
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HS97_STEFN
AC15_MOUSE
XNAJ_BACSU
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TPS2_YEAST
TROD_CYAPA
RS37_XENLA
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P16612 rattus norv
P49151 sus scrofa
P15691 bos taurus
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7 cavia porce
2 homo sapien
2 gallus gall
8 strongyloce
1 mus musculu
8 bacillus su
0 saccharomyc
0 cyanophora
4 xenopus lae
5 streptococc
1 saccharomyc
1 rattus norv
2 arabidopsia
4 escherichia
5 schizosacch
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1 rattus norv
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6 escherichia
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7 schizosacch
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1 rattus norv
9 arabidopsia
7 schizosacch
8 escherichia
7 schizosacch
1 plasmodium
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3 pallus gall
3 plycine max
4 plasmodium
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6 plsum sativ
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-!- ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING!- TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUTOREPITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS!- This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.	regulatory sequences."; J. Biol. Chem. 271:3877-3883(1996)	SEQUENCE OF 1-3 FROM N.A. SEQUENCE OF 1-3 FROM N.A. MEDLINE; 96216498. Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A.; "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional	elopment 114.521-532(1992). IJENCE FROM N.A. (VEGF-1). LINE; 92355593. Effey K.P., Wilkison W.O., Spiec scular endothelial growth factoferentiation and activated seconds chem. 267:16317-16322(198)	Eukaryota; Metazoa; Chordata; Crantata; Vertebrata; Euteleoscomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. [1] SEQUENCE FROM N.A. MEDILINE; 92274850. Breier G., Albrecht U., Sterrer S., Risau W.; "Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation.";	ACTOR PRECURSOR (VEGE)	1 OUSE CTANDARD. DRT. 214

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RESULT
VEGF_R
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Best Local Similarity
Matches 20; Conser
                                                                                                                                                              Proc.
                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                       01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
VARSPLIC
VARSPLIC
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CONFLICT
SEQUENCE
                                                                                                                                                                                                                                MEDLINE; 90207249.

Conn G. Bayne M.L., Soderman D.D., Kwok P.W.,
Palisi T.M., Hope D.A., Thomas K.A.;
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                                                                                                                               "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                             PERMEABILITY FACTOR) (VPF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSP; Plbbs,, _, mGD; MGI:103178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGF_RAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
CELL GROWTH. INDUCES ENDOTHELIAL PROLII PERMEABILITY.

1- SUBUNIT: HOWDIMER, DISULFIDE-LINKED.

1- SUBCELLULAR LOCATION: SECRETED BUT REME TO THE EXTRACELULAR MATRIX UNLESS RELESIMILARITY).

1- TISSUE SPECIFICITY: EXPRESSED IN THE PJ PARTICULARLY IN SUPRAOPTIC AND PARAVENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27
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PS50278; PDGF_2; 1.
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Pred. No.
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Sciurognathi; Muridae; Murinae; Rat
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  IN THE PITUITARY, D PARAVENTRICULAR!
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    , IN BRAIN,
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Best Local Similarity 90.0
Matches 18; Conservative
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VEGF_PIG
P49151;
between the
the European
                                                                                                                                                                                                                                                                                      Sharma H.S., Tang Z.H., Gho B.C.H., "Nucleotide sequence and expression endothelial growth factor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
                                               This SWISS-PROT
                                                                                                                                                                                                                                                Biochim. Biophys. Acta 1260:235-238(1995).
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                                                                                                                                                                                                                                                                                                                                                                  MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-HEART;
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PIR; A35987; A35987.
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                                                                                                                                CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION PERMEABILITY (BY SIMILARITY).

SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILA SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSO TO THE EXPRACELLULAR MATRIX UNLESS RELEASED BY
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                                                                                          SIMILARITY)
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHOROID PLEXUS.
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PS50278; PDGF_2;

Growth factor; G1

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Sutheria; Cetartiodactyla; Suina; Suidae;
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ROT entry is copyright. It is produced through a collaboration Swiss Institute of Bioinformatics and the EMBL outstation - Bioinformatics Institute. There are no restrictions on its
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                                                                                          BELONGS
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90.0%;
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                                                                                   TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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589374010441F377 CRC64;
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Matches 15
                                            MEDLINE: 89286596.

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Pittuitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTION OF TRANSPORT AND 
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CARBOHYD
SEQUENCE
                                                                                                                                                                                                             Tischer E., Gospodarowicz D., Marcham J.A.;
Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member of derived growth factor gene family.";
derived growth factor gene family.";
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SIGNAL
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01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence up
01-OCT-1996 (Rel. 34, Last annotation
VASCULAR ENDOTHELIAL GROWTH FACTOR PRI
PERMEABILITY FACTOR) (VPF).
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or send an email t
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Science 246:1306-1309(1989).
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                                                                                                                                                                                          SEQUENCE OF 27-31.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND
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Mammalia;
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- SUBUNIT: HOMO
- SUBCELLULAR I
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Eutheria;
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Gospodarowicz D., Mitchell R.,
Sp T., Fiddes J.C., Abraham J.A.
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HOMODIMER, DISULFIDE-LINKED.

LAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
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75.0%;
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GROWTH FACTOR.

OVASCULAR ENDOTHELIAL GROWTH FACTOR.

BY SIMILARITY.

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INTERCHAIN (BY SIMILARITY).

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ON-LINKED (GLCNAC...) (POTENTIAL).
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minantia; Pecora; Bovoidea;
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MEDLINE; 97117958.

REQUENCE; PATRICULAR PROBLEMS:
Reynolds L.P., Moor R.M.;
Reynolds L.P., Moor R.M.;
"Characterization and expression of vascular endotheliar "Characterization and expression by vascular endotheliar "Characterization";
factor (VEGF) in the ovine corpus luteum.";

J. Reprod. Fertil. 108:157-165(1996).

J. Reprod. Fertil. 108:157-165(1996).

TUDUCES ENDOTHELIAL PROLIFERATION AND
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EMBL; M31836, AAA30804.1; -.
EMBL; M3750; AAA30805.1; -.
PIR; A33255; A33255.
PIR; A33787; A33787.
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Mammalia; Eutheria;
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the European Bioinformatics Institute
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Cetartiodactyla;
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-!- FUNCTION: GROWTH
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Eukaryota; Metazoa; Chordata;
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VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY
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DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 15-JUL-1999 (Rel. 38, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR

DE PERMEABILITY FACTOR) (VPF).
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                                                                       Weindel K., Marme D., Weich H.A., "AIDS-associatec Kaposi's sarcoma endothelial growth factor.", Biochem, Biophys. Res. Commun. 18:
   MEDLINE; 90062112.
Connolly D.T., Cla
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Homo sapiens (Human).
Eukaryota; Metaźoa; Chordata;
Eukaryota; Metaźoa; Primates;
                                      PRELIMINARY SEQUENCE
                                                                                                                                                                                                 "The human gene for vascular endothelial growth factor. protein forms are encoded through alternative exon splid." Biol. Chem. 266:11947-11954(1991).
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Connolly D.T.;
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                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Vascular endothelial growth factor: crystal structure mapping of the kinase domain receptor binding site."; Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rochs G., Marme D., Hug H., Weich H.A., "Synthesis and assembly of functionally endothelial growth factor homodimers in Eur. J. Biochem. 211:19-26(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Siegel N., Haymore B.L., Leimgruber R., Feder of "Human vascular permeability factor. Isolation J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                "1H, 13C, and 15N backbone assignment and secondary structure receptor binding domain of vascular endothelial growth factor. Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.; "The crystal structure of vascular endothelial growth refined to 1.93-A resolution: multiple copy flexibilit binding.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 27-41.
MEDLINE; 93145946.
Fiebich B.L., Jaeger B.,
Kochs G., Marme D., Hug I
                                                                                                                                                                                                                                                                                                                           endothelial growth factor.";
Structure 6:637-648(1998).
                                                                                                                                                                                                                                                                                                                                                                        Fairbrother W.J., Champe M.A., Christinger H.W., Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A., Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Crystal structure of peptide.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wiesmann C., Christinger
Fairbrother W.J., Keenan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Muller Y.A., Li B., Christinger H.W., de Vos A.M.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              K-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                          Solution structure of the heparin-binding
                                                                                                                                                          ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165, VEGF-189, AND, VEGF-215).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                   SUBUNIT: HOMODIMER, D. SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                               FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION &
                                                                                                                                                                                                                         SIMILARITY).
                                                                                                                                                                                                                                                                                  PERMEABILITY
                                                                                                                                                                                                                                       BUNIT: HOMODIMER, DISULFIDE-LINKED.
BCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED :
THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
                                        s requires a license agreement (S
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                      98298440:
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97477915.
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W.J., Keenan C.J.,
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H., Weich H.!
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en VEGF and a receptor-blocking
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f 01-0cT-1998 (Rel. 36, Last sequence updat
f 15-JUL-1998 (Rel. 37, Last annotation up
DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECI
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Best Local S
Matches 14
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EMBL; M63973; I
EMBL; M63973; I
EMBL; M63974; I
EMBL; M63975; I
EMBL; M63976; I
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                                     Coturnix coturnix japonica (Japanese quail)
Eukaryota; Metazoa; Chordata; Craniata; Ver
Archosauria; Aves; Neognathae; Galliformes;
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PDB;
PDB;
PDB;
MIM;
      SPECIES-CHICKEN;
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2VGH; 08-APR-98.

1VPF; 08-APR-98.

2VPF; 29-JUL-98.

1VPP; 23-FEB-99.
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A40079; A40079.
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A40454; A40454
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CAA44447
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       TISSUE-HEART
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66.7%;
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INTERCHAIN.
N-LINKED (GLCNAC.
K -> N (IN ISOFOR
VEGF-165).
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Pred.
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MISSING (IN ISOFORM VEGF-121).
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                                                                                                                                                                                                      65.5; DB 1;
No. 0.0013;
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                                    Vertebrata; Euteleostomi;
mes; Phasianidae; Phasianinae;
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SERVINE REPRESENTATION OF THE FEBRUARY PROCESS OF SERVINE REPRESENTATION OF THE FEBRUARY REPR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (fik-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-I. FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGENESIS, AND ENDOTHEI CELL GROWTH. INDUCES ENDOTHEILIAL PROLIFERATION AND VASCULAR PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00249; PDGF_1; PROSITE; PS50278; PDGF_2;
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"Overexpression of vascular endothelial growth factor in the avian
embryo induces hypervascularization and increased vascular
permeability without alterations of embryonic pattern formation.";
Dev. Biol. 171:399-414(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPECIES-C
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ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEI
FINITION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND
LIVER. IN KIDNEY GLOWERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS
5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS DEVELOPMENTAL STAGE: THE VEGF-167 FORM IS UPGRADED DURING GRASTRULATION. EXPRESSION OF THE VEGF-190
FORM IS DETECTABLE ONLY FROM DAY 2.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                 EGEOKSHEVIKFMDVY 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB011078; BAA24925.:
S79680; AAB35371.1;
P15692; 2VGH.
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10; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Growth
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96005007.
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                                                                                                                                                                                              50.9%;
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                                                                                                                                                                                                                                                                                                                                    W.
                                                                                                                                                                                                                                                                                                                    INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCMAC. . .) (POTENTIA
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
F -> L (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
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VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
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0.022;
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"Identification of a 97-kDa heat shock p
ovaries with 94% amino acid identity to
receptor for sperm."
Dev. Biol. 184:31-37(1997).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (P
-!- SUMILARITY: BELONGS TO THE HEAT SHOC
                                                                                                          (land (land) (RECC1 ).

RFC1 OR RECC1 (Mouse).

Mus musculus (Mouse).

Thervota; Metazoa; Chordata; C:

Thervota; Aharia; Rodentia; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOUSE
AC15_MOUSE
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HS97_S
                                                                                                                                                                                                                                                               p35601;
01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
01-OCT-1996 (Rel. 34, Last annotation factor c Large Subunit)
ACTIVATOR 1 140 KDA SUBUNIT (REPLICATION FACTOR C LARGE SUBUNIT)
140 KDA SUBUNIT) (RF-C 140 KDA SUBUNIT) (ACTIVATOR 1 LARGE SUBUNIT)
(A1-P145) (DIFFERENTIATION SPECIFIC ELEMENT BINDING PROTEIN)
MEDLINE; 94089669.
Burbelo P.D., Utani
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01-NOV-1997
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RFC1 OR RECC1 OR IBF-1.
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Q94738;
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Eukaryota; Metazoa; Echinodermata; Eleutherozoa;
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Sciurognathi; Muridae; Murinae;
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CONFLICT
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-i- FUNCTION: THE ELONGATION OF PRIMED DNA TEMPLATES BY DNA DELTA AND EPSILON REQUIRES THE ACTION OF THE ACCESSORY FORMA AND ACTIVATOR 1. THE 140 SUBUNIT BINDS TO THE PRIME TEMPLATE JUNCTION.
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                                                                                                                                                                                                                                                             EMBL; U01222; AAA21643.1; --
EMBL; V72711; CAA51260.1; --
EMBL; U36441; AAA79698.1; --
EMBL; U07157; AAC52140.1; --
EMBL; U15037; AAB60452.1; --
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Proc. Natl. Acad. Sci. U.S.A. 90:11543-11547(1993).
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DOMAIN
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C2HC-TYPE (POTENTIAL).
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EMBL; Z99113; CAB13641.1; -.
SUBTILIST; BG12262; YNAJ.
INTERPRO; IPR001927; -.
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Bacteria; Firmicutes;
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Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases
-I- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (PO
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                                                                                                                                                                       Na_Galacto_symp; 1.
172; Na_GALACTOSIDE_SYMP; 1.
protein; Transport; Transmembrane;
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ور:
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61.5%;
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R IN GLNA-XYNB INTERGENIC REGION
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region
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                                                  MW;
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V -> A (IN REF. 5).
N -> S (IN REF. 4).
MISSING (IN REF. 3) AND
S -> N (IN REF. 1).
T -> A (IN REF. 3).
K -> KQ (IN REF. 4).
MW; A6F4F970A7F9EE94 C
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Score 43; DB Pred. No. 15; 2; Mismatches
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                                                 POTENTIAL.
POTENTIAL.
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                    Length 463;
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Similarity 8; Conserv

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RESULT 12
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Matches 8
                                                                                                                                                      TPS2_YEAST STANDARD
P31688;
01-JUL-1993 (Rel. 26, C
01-CCT-1996 (Rel. 34, L
01-NOV-1997 (Rel. 35, L
TREHALOSE-PHOSPHATASE (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; 234288; CAA84051.1; -
EMBL; 249346; CAA89363.1; -
EMBL; 248851; CAA61310.1; -
PIR; S47119; S47119;
SGD; S0003607; YJL071W.
                      Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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P40360;
01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
HYPOTHETICAL 65.6 KDA PROTEIN IN SNC3-MRPL8 INTERGENIC REGION.
YJLO71W OR J1091 OR HRB574.
Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetales;
                                                                                                        PHOSPHATASE) (TPP).
TPS2 OR PFK3 OR YDR074W OR YD8554.07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein. SEQUENCE 574 AA; 65610 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (JUN-1995) to the EMBL/GenBank/DDBJ databases.
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MEDLINE; 95282514.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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nes 8; Conserv
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                                                                                                                                                                                                                                                                                                    STANDARD;
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44.4%;
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Last annotation update)
(EC 3.1.3.12) (TREHALOSE
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Pred. No.
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                                                   Saccharomycetales;
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PIR; S30052; S30052.
SGD; S0002481; TPS2.
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EMBL; X46796; CAA86796.1; -.
EMBL; Z74370; C2A98893 1; -.
EMBL; X58858; C1A41661.1; -.
                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a chetween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ronne H., Carlberg M., Hu G.-Z., Nehlin J.O.;
Protein phosphatase 2A in Saccharomyces cerevisiae: effects on cel
growth and bud morphogenesis.";
Mol. Cell. Biol. 11:4876-4884(1991).
-i- CATALYTIC ACTIVITY: TREHALOSE 6-PHOSPHATE + H(2)0 - TREHALOSE +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=S288C
Richards C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   trehalose-6-phosphate synthase/phosphatase complex in Saccharomyces cerevisiae, causes accumulation of trehalose-6-phosphate and loss of trehalose-6-phosphate phosphatase activity.";
Eur. J. Biochem 212:315-323(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 9318564)
de Virgilio C., J
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STRAIN-W303-1A;
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STRAIN-C13-ABYS86;
                                                                                                                                                                                               PFAM; PF00982;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 92017761.
165 PSNEGEQEKNWWYDYVKFNEAY
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                    N
                                                                                                                                                                                                                                                                                                                                                                                                                      OR FOUR POLYPEPTIDES OF 56 KDA (TPS1), 102 K
(TPS3) AND %23 KDA (TSL1).
INDUCTION: INDUCED BY HEAT SHOCK; REPRESSED
SIMILARITY: TO THE E.COLI ENZYME (GENE OTSB)
SIMILARITY: CONTAINS A DOMAIN FOUND IN ALL T
                                                                                                                                                                                                                                                                                                                                                                                                              TPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBUNIT: TRUBALOSE SYNTHASE/PHOSPHATASE COMPLEX CONTAINS THREE OR FOUR POLYPEPTIDES OF 56 KDA (TPS1), 102 KDA (TPS2), 115 KDA
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                   PTTEGEOKS-'--HEVIKEMDVY
                                          8; Conserv
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289
542
546
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896 AA
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                                           Conservative
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                                                                                                               TPS COMPLEX DOMAIN.

F -> Y (IN REF. 1).
N -> D (IN REF. 1).
Q -> K (IN REF. 1).
N -> D (IN REF. 1).
N -> D (IN REF. 1).
186
                    20
                                           6;
                                                      Score 42.5;
Pred. No. 3
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                                           Mismatches
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                                                                 Length 896;
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01-FEB-1996 (Rel. 33, I
40S RIBOSOMAL PROTEIN S
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                                                        TISSUE=OVARY;
Ladomery M.R., Sommerville J.
Submitted (APR-1993) to the E
                                                                                                                                           Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Transferase;
SEQUENCE 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: DNA-DEPENDENT RNA POLYMERASE CATALYZES THE TRANSCRIPTION OF DNA INTO RNA USING THE FOUR RIBONUCLEOSIDE TRIPHOSPHATES AS
This SWISS-PROT entry is copyright. It is produbetween the Swiss Institute of Bioinformatics
                                                                                                                                                                                                                                                                                           XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFAM; PF00623; RNA_pol_A; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U30821; AAA81259.1; MENDEL; 16051; CYApa; rpoC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-LB555 / PRINGSHEIM;
Stirewalt V.L., Michalowski C.B., Luffelhardt W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                Xenopodinae;
                                                                                                                                                                                                                                                               RS27_XENLA
P47904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bryant D.A.
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                               nitted (APR-1993) to the EMBL/GenBank/DDBJ databases.
SIMILARITY: BELONGS TO THE S27E FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: IN CYANELLE THE RNA POLYMERASE IS COMPOSED OF SUBUNITS: ALPHA, BETA, BETA', AND BETA".
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6051; CYApa;rpoC2;mn16051.
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Pred. No. 52;
7; Mismatches
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SEQUENCE
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INTERPRO;
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                       PTTEGEQKSHEVIK-----
PTPEEEKRKHKKKRLVQSPNSYFMDVKC
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                                                        Similarity
                                                                                                        83 AA;
                                             36.8 ilarity 35.7 Conservative
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9344 MW;
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                      -FMDVYC
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Pred. No. 3.6;
4; Mismatches
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Search completed: November 9, 2000, 15:40:20 Job time: 573 sec

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: sp_archea:*
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SUMMARIES

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Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (VEGF-A) splicing variants, VI masseter muscle.", Submitted (DEC-1999) to the ELEMBL; AF215726; AAF19212.1; -INTERPRO; IPRO00072; -INTERPRO; IPRO00072; -INTERPRO; IPRO00072; -INTERPROPERTO; IPRO00072; -INTERPROPERTO; IPRO00072; -INTERPROPERTO; IPRO00072; -INTERPROPERTO; IPRO00072; -INTERPROPERTOR IPRO00072; -INTERPRO
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PROSITE; PS00249; PDC
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PEAM; PE00341; PDGF; 1.
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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Burchardt M., Burchardt T., Chen M.-W.,
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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Ishii H., Arakawa T.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     shii H., Arakawa T., Okayama M., Oota
Developmental expression of vascular (
VEGF-A) splicing variants, VEGF-A188,
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18; Conservative
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Pred. No. 9
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Pred. No. 7.4e-09
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Sciurognathi; Muridae,
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Sciurognathi; Muridae; Murinae;
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VEGF-Al64,
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                                                                                                                                                                                                                                                        DB 11;
.9e-09;
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                                                                                                                                                                                                                                                                                               Length 146;
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and VEGF-A120
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; Murinae; Rat
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RESULT
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Best Local S
Matches 18
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Best Local :
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Q9QXG7;
Q1-MAY-2000
01-MAY-2000
01-JUN-2000
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Q9QX39;
Q1-MAY-2000
                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

MEDILINE; 99313148.

RAVIVI A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

RAdaptive hypoxic tolerance in the subterranean mole rat Spehrenbergi: the role of vascular endothelial growth factor.

FEBS Lett. 452:133-140(1999).

EMBL; AF186236; AAD56245.1; -.

INTERPRO; IPR000072; -.

PFAM; PF00341; FDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, 01-JUN-2000 (TrEMBLrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AF215725; AAF19211.1; -
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 AA; 25239 MW; 60FBB876F5304946 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2000 (TrEMBLrel. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR-A188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Spalax.
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Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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27
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APTAEG
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18; Conserv
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                                                                                                                                            Similarity 72.
l8; Conservative
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Rodentia;
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72.0%;
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Last annotation update)
FACTOR.
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                                                                                                                                     Score 91; DB Pred. No. 5.3e
1; Mismatches
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Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       190
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                                                                                                                                                                               DB 11;
5.3e-07;
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.5e-08;
                                                                                                                                                                                                                 Length 190
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growth factor-A
and VEGF-A120 in
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Matches 15
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Best Local
                                                                                                                                                                                                  Matches
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Submitted (MAR.1999) to the EMBI
EMBL; AR133248; AAD29682.1; -.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW; ;
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01-NOV-1999
01-JUN-2000
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EMBL; AF071015; AAC23608.1; -.
HSSP; P15692; 2VGH.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom1;

Mammalla; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Caprinae; Ovis.
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  Q9XSF4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Canis familiaris (Dog).
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Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                  APTTEGEQKSHEVIKFMDVY
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                                                                                                           APMAGGEHKPHEVVKFMDVY 46
                                                                                                                                                                                               l Similarity
14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15; Conservative
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999 (TrEMBLrel. 12, Last sequence update)
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ENDOTHELIAL GROWTH FACTOR 164.
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  PRELIMINARY;
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70.0%;
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75.0%;
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: Pred. No. 4.4e
1; Mismatches
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H FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ
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Pred.
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  PRT;
                                                                                                                                                                                                                                                                                                             2053500BC9085CE0 CRC64;
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0.00013;
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                                                                                                                                                                                                                                      Length 190;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>..</u>
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Matches 14
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Best Local
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submitted (MAR-1999) to the E
EMBL; AF133249, AAD29683.1;
INTERPRO; IPRO00072;
IRTERPRO; IPRO00072;
PFAM; PFO0341; PDGF; 1.
PROSITE, PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400 MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9XSF5 PRELIMINAR
Q9XSF5;
01-NOV-1999 (TrEMBLrel
01-NOV-1999 (TrEMBLrel
01-JUN-2000 (TrEMBLrel
VASCULAR ENDOTHELIAL G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O9XSF4;
O1-NOV-1999 (TrEMBLrel
O1-JUN-2000 (TrEMBLrel
VASCULAR ENDOTHELIAL (
                              Q9UH58 PRELIMINARY; PRT; 147 AA.
Q9UH58;
01-MAY-2000 (Tremblrel. 13, Created)
01-MAY-2000 (Tremblrel. 13, Last sequence update)
01-JUN-2000 (Tremblrel. 14, Last annotation updat)
VASCULAR ENDOTHERIAL GROWTH FACTOR ISOFORM 121 PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Canis familiaris (Dog).

Canis familiaris (Dog).
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Canis familiaris (Dog).
Canis familiaris (Dog).
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SEQUENCE
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Submitted (MAR-1999) to the
EMBL; AF133250; AAD29684.1;
INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGF.
Homo sapiens (Human) 
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria;
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TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [ISSUE=HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                   14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    PS00249; P
214 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) (TrEMBLrel. 12, 0) (TrEMBLrel. 12, 1) (TrEMBLrel. 14, 1) (TrEMBLrel. 14, 1) NDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 12,
(TrEMBLrel. 12,
(TrEMBLrel. 14,
                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                             25; 1.
; PDGF; 1.
25151 MW;
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Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                66.7%;
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70.0%;
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Last annotation update)
FACTOR 182.
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Last annotation update)
FACTOR 188.
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Ve; ; Fissipedia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; ; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CF77AC591F5C2BBE
                                                                                                                                                                                                                                                                                                                                                                                                                                      2269981AFBC60058 CRC64;
                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                       76;
                                        ISOFORM 121 PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   214
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ia; Canidae;
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0.00015;
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RESULT
075875
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Q9UL23
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Best Local
Matches 1
                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                              Matches
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Sato J.D., Whitney R.G.;
Sato J.D., Whitney R.G.;
"Human CDNA for vascular endothelial gr
"bubmitted (DEC-1999) to the EMBL/GenBar
EMBL; AF214570; AAF19659.1; -.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTTE; PS00249; PDGF; 1.
                                                           075875 PRELIMINARY;
075875;
01-NOV-1998 (Tremblrel. 08, C1
01-NOV-1998 (Tremblrel. 08, L2
01-JUN-2000 (Tremblrel. 14, L2
VASCULAR ENDOTHELIAL GROWTH F
                                                                                                                                                                                                                                                                                     and receptor mRNA expression in hidentification of VEGF148 mRNA, a Clin. Sci. 97:303-312(1999).

EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 174 AA; 20218 MW; AE:
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9UL23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TIEMBLIFEL 13, C
01-MAY-2000 (TIEMBLIFEL 13, I
01-JUN-2000 (TIEMBLIFEL 14, I
VASCULAR PERMEABILITY FACTOR
                                           Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
         SEQUENCE FROM N.A.
                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                        Whittle
                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-GLOMERULI;
                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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APMAEGGGQNHHEVVKFMDVY
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                                                                                                                                                                                                                                14;
                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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17219 MW;
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66.7%;
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EMBL/GenBank/DDBJ databases.
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R 148.
                                                                 Last sequence update)
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FACTOR.
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                                                                                                                                                                                                                              Score 65.5; DB 4
Pred. No. 0.0058;
L; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 65.5; DB 4; Pred. No. 0.0049;
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DDF4D6994249BED6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; V
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                        Harrison
                                                                                                                            PRT;
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                                                                                                                                                                                                                                                                                                                                                        human glomeruli, and the a novel truncated splice variant.";
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annotation
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i; Hominidae; Homo.
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RESULT
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Best Local (
                                                                                  Matches
                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                           TISSUE-RETINA; (
Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the E
EMBL; AJ010438; CAA09179.1; -
EMBL; AF062645; AAC16730.1; -
HSSP; P15692; 2VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  060720
060720;
01-AUG-1998
01-MAY-1999
01-JUN-2000
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PFAM; PF00341; PDGF; 1.

PRODOM; PD001629; -; 1.

SEQUENCE 191 AA; 22320 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claffey K.P., Shih S.-C., Mullen A., Abrams K.R., Lee S.W., Detmar M.; "Identification of a human VPF/VEGF 3 hypoxia-induced mRNA stability."; Mol. Biol. Cell 9:469-481(1998). EMBL; AF022375; AAC63143.1; -.. HSSP; P15692; 1VPP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1998 (TRIMBLIEL 07, Created)
01-MAY-1999 (TRIMBLIEL 10, LAST Seg
01-UN-2000 (TRIMBLIEL 14, LAST ann
VEGF183 PROTEIN PRECURSOR (VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-BREAST;
MEDLINE; 98119755.
                                                                                                                                                                                                                                 Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lei J., Jiang A., Pei D.;
"Identification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183.";
Biochim. Biophys. Acta, Gene Struct. Expr. 1443:400-406(1998).
                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                           INTERPRO; IPRO00072; -.
PEAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
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MEDLINE; 99096474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia;
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                          APTTE-GEOKSHEVIKFMDVY
APMAEGGGQNHHEVVKFMDVY
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                                                                                    14;
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                                                                                  Similarity 66.7
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                                                                                                                                                                                        209 AA;
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letazoa; Chordata;
ltheria; Primates;
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24422 b
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66.7%;
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Last annotation updat
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Pred.
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VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
                                                                                                        Score 65.5;
Pred. No. 0.
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ENDOTHELIAL GROWTH
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RESULT Q16889

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Best Local S
Matches 9
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Best Local Similarity
Matches 14; Conserv
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EMBL; S85192; AAC63102.1; -.
EMBL; S8524; AAC63101.1; -.
EMBL; S8529; AAC63101.1; JOINED.
EMBL; S85219; AAC63101.1; JOINED.
EMBL; S852219; AAC63101.1; JOINED.
EMBL; S85222; AAC63101.1; JOINED.
HSSP; S85222; AAC63101.1; JOINED.
HSSP; S8522; AAC63101.1; JOINED.
HSSP; S15692; ZVPF.
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01-JAN-1998 (TrEMBLrel. 05, C
01-JAN-1998 (TrEMBLrel. 05, L
01-JUN-2000 (TrEMBLrel. 14, L
VASCULAR ENDOTHELIAL GROWTH F
                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008593; AAB63679.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
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MEDITINE; 92168017.

HOUCK K.A., FERTAGA N., Winer J., Cachianes G., Li B., Leung D.W.;

"The vascular endothelial growth factor family: identification of a
fourth molecular species and characterization of alternative splicing
of RNA.";
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1996 (TrembLrel. 01, 01-NOV-1998 (TrembLrel. 08, 01-JUN-2000 (TrembLrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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EGEQKSHEVIKFMDVY 20
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9; Conserv
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FACTOR (FRAGMENT).
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Last annotation update)
FACTOR 122.
                                                                                                                  Score 50; DB 13; Length 148; Pred. No. 1.5; 3; Mismatches 4; Indels
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November 9, 2000, 15:39:36

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Result
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Maximum Match 100%
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4: pir4:*
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237
1 CERRKHLFVQTCKC
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Gapop 10.0 , Gapext 0
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35.942 Million cell updates/sec
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	52	52	52.5	52.5	53	53	53	53	53	53.5	53.5	53.5	54	54	54.5	54.5
<i>,</i>	21.9	21.9	22.2	22.2	22.4	22.4	22.4	22.4	22.4	22.6	22.6	22.6	22.8	22.8	23.0	23.0
	335	146	1051	683	376	372	241	225	170	1280	1106	1106	432	147	651	128
	N	N	N	1	N	N	-	N	N	2	N	N	N	N	ν	N
	T31559	S34049	JC4091	RNZMB1	JC4892	S23936	PFMSGB	S25097	G64016	A39117	T44598	T13938	T37509	A48194	T19477	I51295
	hypothetical prote	phospholipase A2 (glycoprotein A - P	DNA-directed RNA p	L-selectin precurs	L-selectin precurs	platelet-derived g	platelet-derived g	hypothetical prote	170K lectin precur	hypothetical prote	gene shuttle craft	hypothetical prote	thyrotropin beta c	hypothetical prote	vascular endotheli

ALIGNMENTS

A;Molecule type: mRNA
A;Residues: 1-190 <LEDY
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R;Tischer, E.; Gospolarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cr Blochem, Blophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular enJothelial growth factor: a new member of the platelet-derived gro A;Reference number: x33787; MUID:90121225
A;Recession: B33787 vascular endothelial growth factor - pig
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999 R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothelial growt.
A;Reference number: S52130; MUID:95143284
A;Accession: S52130
A;Status: preliminary. RESULT S52130 R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1339, 1989
A;Title: Vascular enJothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608
A;Accession: B40080 vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 0: C;Accession: B40080; B33787; A33255 밁 ş C; Accession: A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560 A; Molecule type: mRNA A; Residues: 1-190 <SHA> Query Match
Best Local Similarity
Matches 40; Conserv 147 ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 190 2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41 S52130 Conservative 90.98; 0; Score 206; DB 2; Pred. No. 2.4e-16; 0; Mismatches 0 novel heparin-binding growth factor #text_change 05-Nov-1999 0; Indels Length 190; 4 Gaps N

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A; Residues: 1-116, Er',119-190 <CLA>
A; Cross-references: GB:M95200; NID:9202350; PIDN:AAA40547.1;
A; Note: sequence extracted from NCBI backbone (NCBIN:110665, R; Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Growth Factors 4, 53-59, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Note: sequence extracted from NCBI backbone (NCBIN:107 R; Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M. J. Biol. Chem. 267, 16317-16322, 1992 A; Title: Vascular endothelial growth factor. Regulation A; Reference number: A43351; MUID:92355593 A; Accession: A43351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Accession: A33255
A;Molecule type: protein
A;Residues: 27-31 <FERN
A;Residues: 27-31 <FERN
C;Reywords: alternative splicing; glycoprotein
C;Reywords: alternative splicing; glycoprotein
F;1-26/Domain: signal sequence #status predicted <SIG>F;27-190/Product: vascular endothelial growth factor #;
F;100/Binding site: carbohydrate (Asn) (covalent) #sta
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R; Breier, G:;
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A; Residues: 1-190 <BRE>
                                                                                                                    glioma-derived vascular endothelial cell growth factor - rat C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change C;Accession: A35987
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: protein A; Residues: 27-38 < ROS>
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                                      R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and CDNA sequences of a vascular endothelial cell mitogen A;Reference number: A35987; MUID:90207249
A; Reference number: A; Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Species: Mus musculus (house mouse)
;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
;Accession: B44881; A43331; A61029
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No. 2.4e-16;
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.4e-16;
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NCBIP: 110675)
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                 vascular endothelial growth factor 206 precursor - N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 C;Species: Homo sapiens (man)
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ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR

214

(VEGF 121);

VEGF

165;

VEGF

189;

ΥE

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A; Molecule type: n
A; Residues: 1-190
                                                                                                                                                                 C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. C;Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homo F;1-26/Domain: signal sequence #status predicted <SIG> F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 27-33 <CLA>
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; W
Biochim. Biophys. Acta 1224, 365-370, 199
A; Title: Enhanced expression of multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang
J. Exp. Med. 172, 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived
A;Reference number: A60932; MUID:91079755
A;Accession: A60932
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             Qy
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A; Residues: 1-140,209-214 <BR2>
A; Cross references: GB:S38100, NID:g249860; PIDN:AAB22254.1; PID:g249861
A; Octo: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
A; Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P
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A; Residues: 1-140,209
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A; Residues: 1-214 <BRE>
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2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
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Pred. No. 2.4e-16;
                                                                                    Score 206; DB 2; Pred. No. 2.6e-16;
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                                                                                                           Length 214;
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Miles Company

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A; Molecule type: mRNA
A; Residues: 1-140,'N',227-232 <WE2>
A; Residues: 1-140,'N',227-232 <WE2>
A; Experimental source: AIDS-Kaposi's sarcoma cell
R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.;
J. Biol. Chem. 264, 20017-20024, 1989
A; Title: Human vascular permeability factor. Isolation from A; Reference number: A34492; MUID:90062112
A; Accession: A34492
                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-140,'N', 183-232 <WEI>
A; Cross-references: EMBL: X62568; NID: g37658;
A; Experimental source: AIDS-Kaposi's sarcoma
A; Accession: JQ1464
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A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:
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R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva,
J. Biol. Chem. 266, 11947-11954, 1991
A;Title: The human gene for vascular endothelial
A;Reference number: A40454; MUID:91268072
A;Accession: A40454
A; Molecule type: protein
A; Residues: 27-36; 43-49, 'R'; 72-76, 'Q', 78-81; 59-71 <CON>
C; Comment: The most common of several alternatively spliced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem. Biophys. Res. Commun. 183, 1167-1174, A; Title: AIDS-associated Kaposi's sarcoma cell A; Reference number: JQ1463; MUID:92231879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-140,'N', 183-232 < LEU>
A; Cross-references: GB: M32977; NID: g181970; PIDN: AAA35789.1;
R; Weindel, K.; Marme, D.; Weich, H.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R; Leung, D.W.; Cachianes, G.; Kuang, Science 246, 1306-1309, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type:
A; Residues: 1-141
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A; Residues: 1-165,183-232 <TII>
A; Cross-references: GB:M63971;
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A; Residues: 1-140,'N',183-232 <HOU2>
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A;Title: The vascular endothelial gr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: A40079
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Cross-references: GB:M27281;
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;Residues: 1-140,'N',183-232 <TI2>
;Cross-references: GB:M63971; GB:M63972;
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Residues: 1-141,227-232 <HOU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NID:g340300; PIDN:AAA36807.1; PID:g340301
Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
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cell
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Leung, D.W.
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       is VEGF 165
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onnolly, D.T.
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S69207
                                A; Molecule type: n
A; Residues: 1-419
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A; Accession: S69207
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A; Introns: 137/2
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                                                                                                         A;Status: nucleic
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Best Local :
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   ЖМВL: X94216;
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C:Genetics:
A;Gene: GDB:VEGF
A;Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A;Description: promotes fluid and protein leakage from blood vessels
A;Description: promotes splicing; anglogenesis; dimer; disulfide bond; extrace.
C;Keywords: alternative splicing; anglogenesis; domer; description: predict: vascular endothelial growth factor 206 precursor #status pred
F;1-155,183-232/Product: vascular endothelial growth factor 189 precursor #sta
F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #st;
F;1-26/Domain: signal sequence #status predicted <51Go
F:101/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNN; A; Rosidues: 1-188 <TOWN; A; Residues: 1-188 <TOWN; A; Residues: 1-188 <TOWN; A; Cross-references: GB: U43837; NID: g1314335; PIDN: AAC52553.1; PID: g1314336 C; Comment: This factor is a mitogen, that is selective for endothelial cells, ar endothelial growth factors 167 and VEGF 186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999 C;Accession: JC4680 #S;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, M.
                                                                     R;Joukov, V.; Pajusola, K.; Kaipainen, A.;
EMBO J. 15, 1751, 1996
A;Title: Corrigendum: A novel vascular endo
                                                                                                                                           N;Alternate names: FIT4 ligand DHM
C;Species: Homo sapiens (man)
C;Date: 27-Apr-1996 #sequence_revision 01-Nov-1996 #text_change 08-Oct-1999
C;Accession: S69207; S61795; S71443; S69208; G02659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: Characterization of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N; Alternate names: VRF 167 protein C; Species: Mus musculus (house mouse)
                                                                                                                                                                                                                            vascular endothelial growth factor N; Alternate names: FIT4 ligand DHM \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       :1-21/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                        147 QRRQRPDPRTCRCRCRRRFLHCQGRGLELNPDTCRCRKPRK 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                     2 ERRKHLFVQTCKCSCKNTD-SRCKARQLE-NERTCRCDKPRR 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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acid sequence not shown
                                             .
369207;
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                                                                        A novel vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35.9%;
42.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86.9%;
                                                   MUID: 96203094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              220, 922-928, 1996
ne murine VEGF-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 206; DB Pred. No. 2.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 85; DB 2;
Pred. No. 0.0082;
                                                                                                                                                                                                                                                    C
                                                                                                                                                                                                                                                    precursor - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
1.7e-16;
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                                                                                                                           D.; Lahtinen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 188
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                                                                        factor,
                                                                                                                        I.; Kukk,
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                                                                           VEGF-C,
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NID:g1177488; PIDN:CAA63907.1; PID:e221096; PID:g118

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A;Note: the nucleotide sequence was submitted to the EMBL Data Library, December 1995 A;Note: only a part of the translation is shown A;Note: this is a revision to the sequence from reference S61795 R;Joukov, V.; Pajusola, K.; Kaipainen, A.; Chilov, D.; Lahtinen, I.; Kukk, E.; Saksels EMBO J. 15, 290-298, 1996 A;Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 A;Reference number: S61795; MUID:98178224 A;Accession: S61795
                                                                                                                                                                                                                                                                                    Balbiani ring 3 protein - midge (Chironomus tentans)
C;Species: Chironomus tentans
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 17-Mar-2000
C;Accession: S08167
R;Paulsson, G.; Lendahl, U.; Galli, J.; Ericsson, C.; Wieslander, L.
J. Mol. Biol. 211, 331-349, 1990
A;Title: The balbiani ring 3 gene in Chironomus tentans has a diverged repetitive struct A;Reference number: S08167; MUID:90172404
A;Accession: S08167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Lee, J.; Gray, A.; Yuan, J.; Luoh, S.M.; Avraham, H.; Wood, W.I. submitted to the EMBL Data Library, December 1995
A;Description: Vascular endothelial growth factor related protein (VRP): A ligand A;Reference number: S69208
A;Reference number: S69208
A;Recession: S69208
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A; Reference number: H01557
A; Accession: G02659
A; Status: preliminary; translated from GB/EMBL/DDBJ
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A;Molecule type: protein
A;Residues: 'X',104-120 <J0U2>
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A; Residues: 70-419 <JOUI>
                                                                                                              A; Map position: 4
C; Superfamily: unassigned
                                                                                                                                                                                                A; Residues: 1-1700 < PAU>
A; Cross-references: GB:X52263; NID:g7057; PID:g7058
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A; Residues: 1-1700 <
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Cross-references: EMBL: U58111; NID: g1373426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-419 <LEE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: nucleic acid sequence not shown; not compared with conceptual translation
                                                                                                                                                        A; Gene: BR3
                                                                                                                                                                                                                                                                      A; Status: not compared with conceptual translation
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Best Local
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Matches
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                  Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGPHKELDRNSCQCVCKNKLFPSQCGANREFDENTCQC 341
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15; Conser
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                     30.0%;
                                                                                                              Balbiani ring proteins
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Score 71;
Pred. No. :
5; Mismatcl
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Pred. No. 0.25
6; Mismatches
  Mismatches
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0.25;
                                          DB 2; Length 1700;
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  11;
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  Indels
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ھ
    Gaps
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A;Title: Balbiani riig 3 in Chironomus tentans
A;Reference number: "Q00542; MUID:90269600
A;Accession: JQ0542
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A; Residues: 1-69 <CUL>
A; Cross-references: GB.L.29056; NID:g499891; PID:g499892
R; de Haan, M.; Grivell, L.A.; Maarse, A.C.
submitted to the Protein Sequence Database, July 1996
A; Reference number: $66877
A; Accession: $66897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-160 <DIG>
A; Cross-references: GB:M24160
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Experimental source: salivary gland C; Superfamily: unassigned Balbiani ring proteins
    밁
                                          Qγ
                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA;
A; Residues: 1-8 <DEH>
A; CRESIDUES: 1-8 <DEH>
A; Cross-references: EMBL: Z74939; MIPS: YOR031w
A; Experimental source: strain $288C
A; Note: in strain $288C YOR031w is a pseudoge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J. Biol. Chem. 269, 25295-25302, 1994
A;Title: CRS5 encodes a metallothionein-like
A;Reference number: A55011; MUID:95014318
A;Accession: A55011
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Accession: JQ0542
                                                                                                                                                                                                       A; Description: involved
                                                                                                                                                                                                                                                                      A; Map position: 15R
                                                                                                                                                                                                                                                                                                A;Gene: CRS5
                                                                             Query Match
Best Local Similarity
Matches 12; Conser
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Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                     Genetics
                                                                                                                                                                                                                              Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126 CEK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123 INTCACGCGIDKPSCPKQQIYNWKTCDCECP 153
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                                                                                                                                                                                                                                                      YOR031w
    EKCKCDHSTGSPQCKSCGEKCKC----ETTCTCEKSK 63
                                          QTCKC-----SCKNTDSRCKARQLENERTCRCDKPR 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                             Conservative
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                                                                                                                                                                                                            in
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                                                                                                                  25.7%;
                                                                                                                                                                                                       copper homeostasis
                                                                                           score 61; DB; Pred. No. 2; 5; Mismatches
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Pred. No.
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0.35;
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                                                                                                                                          Length 69;
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                                                                                                  Indels
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185K secretory protein - midge (Chironomus tentans) (fragment)
N;Alternate names: balbiani ring 3 protein
C;Species: Chironomus tentans
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_chang.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Saccharomyces cerevisiae
C;Date: 11-Nov-1994 *sequence_revision 11-Nov-1994 *text_change 12-Dec-1997
C;Accession: A55011; (566897
R;Culotta, V.C.; Howard, W.R.; Liu, X.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        yeast (Saccharomyces cerevisiae)
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detoxification
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12;

Gaps

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integumentary mucin B.1 - African clawed frog (fragment)
C;Species: Xenopus laevis (African clawed frog)
C;Date: 17-Aug-1990 *sequence_revision 06-Nov-1992 *text_change 09-Sep-1997
C;Accession: A35281
R;Probst, J.C.; Gertzen, E.M.; Hoffmann, W.
Biochemistry 29, 6240-6244, 1990
A;Title: An integumentary mucin (FIM-B.1) from Xenopus laevis homologous wi A;Reference number: A35281; MUID:91002513
A;Accession: A35281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries (dome: C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text. C;Accession: S57956
R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995
A;Reference number: S57956
A;Accession: S57956
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth A;Reference number: A33787; MUID:90121225
A;Accession: A33787
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A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1;
C;Keywords: alternative splicing
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A;Molecule type: mRNA
A;Residues: 1-146 <RED>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g89935
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                                                                                                               A;Cross-references: GB:J02910; NID:g214145; PID:g214146
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A; Residues: 1-398 <PRO>
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Pred. No. 2.9;
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#text_change 05-Nov-1999
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C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
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Search completed: November Job time: 181 sec
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A; Residues: 1-5376 <G
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Best Local Similarity 44.0
Matches 11; Conservative
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Listing first 45 summaries
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Copyright (c) 1993 - 2000 Compugen Ltd.
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2 saccharomyc
2 ovis aries
5 xenopus lae
0 bos taurus
7 drosophila
6 micrurus ni
7 micrurus ni
7 mus musculu
2 cavia porce
2 caenorhabdi
6 scylla serr
2 potamon pot
11 caenorhabdi
4 salmo salar
7 xenopus lae
8 drosophila
2 entamoeba h
3 haemophilus
8 rattus norv
0 mus musculu
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2 homo sapien
7 cavia porce
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chem. Biophys. Res. Commu chem. Biophys. Res. Commu UDENCE OF 27-31. LINE; 89286596. FRATA N., Henzel W.J.; Liltary follicular cells tor specific for vascular cells tor specific for vascular chem. Biophys. Res. Commu FUNCTION: GROWTH: INDUCES ENITURED INDUCES ENITURED INDUCES ENITURED INDUCES ENITURED INDUCES ENITURED INDUCES ENITURED INDUCES TO THE EXTRACELLUAR MAX. SIMILARITY: BELONGS TO: Light and this statement in the state	ited ann ann ann ann ann ann ann ann ann an	0, 1000041070000
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in-binding growth S, AND ENDOTHELIAL NAND VASCULAR SSOCIATED TO CELLS OR BY HEPARIN (BY BY BY BY BY BY BY BY BY BY	F) (VASCULAR a; Euteleostomi; Pecora; Bovoidea; v., Ferrara N.; angiogenic M., Schilling J., of the platelet-	p30836 rattus norv p16024 zea mays (m p43434 cavia porce p27543 enterococcu o90476 brachydanio p31174 mus musculu o57340 gallus gallus pallus dallus pallus pallus pallus pallus pallus p52889 brachydanio p29674 komo sapien p98092 bombyx mori p16808 human cytom

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P49151;
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PIR;
PIR;
                                                                                                                                                                                                    endothelial growth factor.";
Biochim. Biophys. Acta 1260:235-238(1995).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION.
PERMEABLITY (BY SIMILARITY).
                        EMBL;
HSSP;
                                                                             between the Swiss Institute of Bioinformat:
the European Bioinformatics Institute. Thei
use by non-profit institutions as long a
modified and this statement is not removed.
                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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01-FEB-1996 (Rel. 33, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
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PFAM; PF00341; PDGF; 1.
                                                        entities requires a license agreement (S or send an email to license@isb-sib.ch).
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  INTERPRO; IPRO PFAM; PF00341;
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
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A33787;
B40080;
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                        X81380; CAA57143.1;
P15692; 2VGH.
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90.98;
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RESULT
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"Amino acid and odna sequences of a vascular endothelial that is homologous to platelet-derived growth factor.";
Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGENESIS, AND ECELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VA
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01-AUG-1990 (Rel. 15,
01-OCT-1996 (Rel. 34,
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                                                      EMBL; M32167; ÅAA41211.1;
PIR; A35987; A35987.
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
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                                                                                                                            use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                              PFAM; PF00341; PDGF; 1.
                                                                                                     entities requires a license agreement (See or send an email to license@isb-sib.ch).
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS .
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED
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PDGF_2;
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90.9%;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLONAC. . .) (POTENTIAL).
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Murinae; Rat
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PROSITE;

PS00245; PDGF_1; 1.
PS50278; PDGF_2; 1.
Growth factor; Glycoprotein;

Signal

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RESULT
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SEQUENCE
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01-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                           Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Breier G., Albrecht U., Sterrer S., Expression of vascular endothelial angiogenesis and endothelial cell dipevelopment 114:521-532(1992).
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VEGF_MOUSE
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VEGF-3 REMAINS CELL-SURFACE ASSOCIATED UNDESSOR VEGF-3 ARE HEPARIN.

HEPARIN.

ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. TH LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.

TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEDITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.

VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS.
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Biol. Chem. 271:3877-3883(1996).
FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
                                                                                                                                                                             SUBUNIT: HOMODIMER, DISULFIDE-LINKED. SUBCELLULAR LOCATION: VEGF-1 AND VEGF
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92274860.
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Eutheria;
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190
93
127
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85
100
22396
                                                                                                                                                              CATION: VEGF-1 AND VEGF-2
CELL-SURFACE ASSOCIATED U
                                                                                                                                                                                                                                                                                                                                                                                                                                              (VEGF-1).
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Rodentia;
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BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .).
W; 589374010441F377 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rer S., Risau W.;
thelial growth factor du
cell differentiation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 206; DB 1; 1
Pred. No. 1.4e-17;
D; Mismatches 0;
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   214
                                                                                                                                                                                                                                                                         post-transcriptional
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                                                                                                       VEGF-2 AND VEGF-3) ARE
NG OF THE SAME GENE. THE
A BASIC INSERT LINKED
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; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (VASCULAR
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PLACENTA AND
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                                                                                                                                                                                                                                                                                                                     P.A.;
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   ACCOMPAGNATION OF THE PROPERTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
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Best Local S
Matches 40
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p15692;
01-APR-1990 (Rei. 14, C
01-APR-1990 (Rei. 14, I
15-JUL-1999 (Rei. 38, I
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EMBL; $38083; AAB22254.1;
EMBL; $38100; AAB22254.1;
EMBL; $98100; AAB40547.1;
EMBL; $495200; AAA40547.1;
EMBL; $495200; AAA40547.1;
EMBL; $43351; A43351
PIR; A43351; A43351
HSSP; PL5692; 2VGH.
MGD; MGL:103178; VEGF.
                                                   Keck P.J., B
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CONFLICT
Connolly I "Vascular PDGF.";
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VEGF OR VEGFA.
Homo sapiens (Human).
Homo sapiens (Human).
Chordata;
Chordata;
Primates;
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SIGNAL
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                                                                                                         mitogen.";
Science 246:1305-1309(1989).
[2]
[2]
SEQUENCE FROM N.A., AND PART
MEDLINE; 90069609.
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE; 90069698.
Leung D.W., Cachianes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VASCULAR ENDOTHELIAL GROWTH PERMEABILITY FACTOR) (VPF)
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PFAM; PF00341; PDGF; 1.
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40; Conser
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                              permeability
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BY SIMILARITY.

VASCULAR ENDOTHELIAL GROWTH FACTOR.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.

INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (PROBABLE).

K -> N (IN ISOFORM VEGF-1).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).

MISSING (IN ISOFORM VEGF-2).
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Last annotation update)
GROWTH FACTOR PRECURSOR
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growth
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Catarrhini;
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actor is
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                                 endothelial cell
                                                                                       Sanzo K., Warren T.,
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a secret
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les 0;
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                                                                                                                                                                                                                                                                                          D.V.,
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                                                                                       Feder J.,
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"The crystal structure of vascu refined to 1.93-A resolution: m binding.";
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J. Biol.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY SEQUENCE OF MEDLINE; 90062112.
Connolly D.T., Olander J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Vascular endothelial growth factor: crystal structure mapping of the kinase domain receptor binding site."; proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             *Kochs G., Marme D., Hug H., Weich H.A.;
*Synthesis and assembly of functionally
endothelial growth factor homodimers in
Eur. J. Blochem. 211:19-26(1993).
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Fiebich B.L., Jaeger
Kochs G., Marme D., F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Siegel N., Haymore B.L., Leimgruber R., Feder J.; "Human vascular permeability factor. Isolation from U937 J. Biol. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           weindel K., Marme D., Weich H.A.;
"AIDS-associated Kaposi's sarcoma
endothelial growth factor.";
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                                                                                                                                                                                                               Fairbrother W.J., Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem.
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"Solution structure of the heparin-binding domain o endothelial growth factor."; Structure 5:637-648(1998).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                           Fairbrother W.J.,
Starovasnik M.A.;
                                                                                                                                                            "1H, 13C, and 15N backbone assignment receptor-binding domain of vascular er Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                 MEDLINE;
                                                                                                                                                                                                                                                               STRUCTURE
                                                                                                                                                                                                                                                                                                  Biochemistry
                                                                                                                                                                                                                                                                                                              peptide."
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Fairbrother W.J., Keenan C.J., Meng
"Crystal structure of the complex be
                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE;
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93145946.
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endothelial growth fa
iple copy flexibility
                                                                                                                                                                               nt and secondary structure of
endothelial growth factor.";
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K62568; CAA44447.1;
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ERRKHLFVQDFQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                 ERRKHLFV---
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M63973; AAA36804.1;
M63974; AAA36804.1;
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M27281; AAA36807.1;
M63978; AAA36804.1;
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ps50276; pdgf_2;
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0341; FDGF;
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215 /
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23-FEB-99.
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K -> N (IN ISOFORM VEGF-121 AND VEGF-165).

MISSING (IN ISOFORM VEGF-165).

MISSING (IN ISOFORM VEGF-121).

MY; 7B9759AD5871FF33 CRC64;
                                                        Score 206; DE Pred. No. 1.66 0; Mismatches
                                                         0;
                                                                                                                                                                                                                         INTERCHAIN.
                                                                                                                                                                                                                                                                                                    VASCULAR ENDOTHELIAL
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                                                                                                                                                                                                                                                                                                                                                Alternative
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P26617;
01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation updat
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (
                                                     P52582; Q91420;
01-0CT-1996 (Rel. 34, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                           DISULFID
DISULFID
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SEQUENCE
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HSSP; P15692;
INTERPRO; IPRO
Gallus gallus (Chicken), and
Coturnix coturnix japonica (Ja
Eukaryota; Metazoa; Chordata;
                                                                                                                             CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                        Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content
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                                              PERMEABILITY FACTOR)
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SUBGULT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS A
SUBCELLULAR MATRIX UNLESS RELEASED
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CELL GROWTH. INDUCES
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                                                                                                                                                                                       ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
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                                                                                                                 CHICK
                                                                                                                                                                        PRO; IPR000072; -.
PF00341; PDGF; 1.
TE; PS00249; PDGF_1; 1.
TE; PS50278; PDGF_2; 1.
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39; Conserv
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                                                                                                                                                                                                                                                                             164 AA;
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FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
UCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                              (VPF).
 (Japanese quail)
ta; Craniata; Ver
                                                                                                                                                                                                                    Score 203; DE Pred. No. 2.86
1; Mismatches
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Hystricognathi; Caviidae;
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 Vertebrata; Euteleostomi;
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SEQUENCE
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Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                          EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     PERMEABILITY.

PERMEABILITY.

SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF-166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SEND.

THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART LIVER. IN KIDNEY GLOMEBULI, BRAIN AND YOLK SAC, VEGF-166 FORM.

TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Vascular endothelial growth factor (VEGF) and VEGF receptor (flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGGENESIS, AND ENDOY CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCUI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [1]
SEQUENCE FROM N.A.
TISSUE-HEART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Flamme I., Breier G., Risau W.;
"Vascular endothelial growth fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIES-C.C.JAPONICA; MEDLINE; 95301109.
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                                                                                                                                              CHAIN
                                                                                                                                                          SIGNAL
                                                                                                                                                                     Mitogen; Growth
                                                                                                                                                                                                                               INTERPRO, IPR000072; -
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                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                            AND IS UPGRADED DURING GASTRULATION. EXPRESSION FORM IS DETECTABLE ONLY FROM DAY 2.
                             b.
                                                                                                                                                                                   PS00249; PDGF_1; PS50278; PDGF_2;
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142
143
165
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27:
83:
87:
77:
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1. 26
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 25203
                                                                                Glycoprotein; Alternative splicing; Signal.
BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
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INTERCHAIN (BY SIMILARITY).
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N-LINKED (GLCNAC...) (PÓTENTIAL).
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
F -> L (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
$26669C2F6FC6DA7 CRC64;
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                                                                                                                                                                                                                                                                                                                                          as its content
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Query Match Best Local Similarity

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"Characterization of the murine VEGF-related factor gene.";

Biochem. Biophys. Res. Commun. 220:922-928(1996).

-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR ENDOTHELIAL GROWTH FACTOR BEATED PROTEIN) (VRF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Olofsson B., Pajusola K., Kaipainen A., von Euler G., Joukov Saksela O., Orpana A., Pettersson R.F., Alitalo K., Eriksson "Vascular endothelial growth factor B, a novel growth factor endothelial cells.";
                                                                                                                                                                             CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-BRAIN;
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PROSITE; PS50278; PDGF_2; 1.

Mitogen; Growth factor; Signal; Heparin-binding.
                                                                                                                                                                                                                                                                                                                                MGD; MGI:106199; VEGFB.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
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EMBL; U43837; AAC52553.1; -.
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     ERRKHLFVQTCKCSCKNTD-SRCKARQLE-NERTCRCDKPRR 41
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                                                  Score 85; DB Pred. No. 0.00 7; Mismatches
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VASCULAR ENDOTHELIAL GROWTH;
D52A055FB995E9CA CRC64;
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P49765;
01-0CT-1996 (Rel. 3
01-0CT-1996 (Rel. 3
15-DEC-1998 (Rel. 3
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Homo sapiens (Human).
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or send a
                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Extended the European Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                           -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
-!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
-!- HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Cloning and characterization of a novel human gene vascular endothelial growth factor.";
Genome Res. 6:124-131(1996).
-!- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Grimmond S., Lagercrantz J., I Pollock P., Gotley D., Carson Hayward N., Weber G.;
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01-OCT-1996 (Rel. 34, Last sequence up
15-DEC-1998 (Rel. 37, Last annotation
VASCULAR ENDOTHELIAL GROWTH FACTOR B
                                                                                                                               SIGNAL
                                                                                                                                                                                                                       EMBL; U48801; AAB06274.1; -.
EMBL; U43369; AAA91463.1; -.
HSSP; P15692; 1VPF.
MIM; 601398; -.
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Saksela O., Orpana A., Pettersson R.
"Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc. Natl. Acad. Sci.
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                                                                                                                                                        Mitogen;
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RTCRCRCRRSFLRCQGRGLELNPDTCRCRKLRR
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ps50278; PDGF_2; 1.
Growth factor; Signal; Heparin-binding.
1 21 POTENTIAL.
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188 AA;
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arson E., Rakar
                                                                                                                   , WM
                                                 Score 80; DB
Pred. No. 0.00
4; Mismatches
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                                                                                                                VASCULAR ENDOTHELIAL GROWTH FACTOR: F04654D5A3727194 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  novel human gene
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HETERODIMER
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RESULT
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EMBL; U58111; I
HSSP; P15692;
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   SIGNAL
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PROSITE; PS00249; PDGF=1; 1
PROSITE; PS50278; PDGF=2; 1
Mitogen; Growth factor; Gly
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                                                                                                                                                                                                the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for concentities requires a license agreement (See http://www.isb-sib.ch/aror send an email to license@isb-sib.ch).
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HOmo sapiens (Human).
'arvota; Metazoa; Chordata;
'arvota; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
01-0CT-1996 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FLT4 LIGAND) (FLT4-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Vescular endothelial growth factor related protein: a ligand specific activator of the tyrosine kinase receptor Flt4."; Proc. Natl. Acad. Sci. U.S.A. 93:1988-1992(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Joukov V., Pajusola K., Kai
Saksela O., Kalkkinen N., A
EMBO J. 15:1751-1751(1996).
                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                        Wood C.R.;
Submitted (JUN-1996)
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

Fitz L., Morris J.C., Towler P.S., Long A.J.,
Burgess P., Giannotti J., Ciarletta A., Henne
Fitzgerald M., Scaltreto H., Weich N., Neben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE; 96203094.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saksela O., Kalkkinen N., Alitalo "A novel vascular endothelial grow the Fit4 (VEGFR-3) and KDR (VEGFR-EMBO J. 15:290-298(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Joukov V., Pajusola K.,
Saksela O., Kalkkinen N
                                                                                           PFAM; PF00341;
                                                                                                                                                                                                                                                                                                                                                                                                Zollner R., Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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                                                                                                       INTERPRO;
                                                                                                                    INTERPRO;
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EDLINE; 96178224.
                                                                                                                                                                                                                                                                                                           PTM: PROBABLY PROTEOLITICALLY PROCESSED IN THE C-TERMINUS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                      SUBUNIT: HOMODIMER,
                                                                                                                                                                                                                                                                                                                                                 CELL GROWTH.
                                                                                                                                                                                                                                                                                                                                                            FUNCTION: GROWTH
                                                                                        ; IPR000072; -.; IPR002400; -.
00341; PDGF; 1.
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                                                                                                                                                       CAA63907.1; -. AAA85214.1; -. AAB02909.1; -.
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, Alitalo
Glycoprotein; Signal; Repeat.
POTENTIAL.
POTENTIAL.
VASCULAR ENDOTHELIAL GROWTH FACTOR C.
                                                                                                                                                                                                                                                                                                                                      DISULFIDE-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kaipainen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF
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ACTIVE IN ANGIOGEN
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Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                , Long A.J., Greco R.,
ta A., Hennessey D., Kovacic
th N., Neben S., Finnerty H.,
Gassaway R., Turner K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A., Chilov
K.;
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NESIS, AND
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RESULT 11
BAR3_CHITE
ID BAR3_C
AC Q03376
DT 01-0CT
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Matches 15
                   Query Match
Best Local
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BAR3_CHITE STANDAKU,

Q03376;

01-OCT-1993 (Rel. 27, Created)
01-OCT-1994 (Rel. 27, Last sequence up
01-OCT-1994 (Rel. 30, Last annotation
01-OCT-1994 PROTEIN 3 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "The Babbiani ring 3 gene in Chironomus tentans has a diverged repetitive structure split by many introns.";

J. Mol. Biol. 211:331-349(1990).

-i- FUNCTION: USED BY THE LARVAE TO CONSTRUCT A SUPRAMOLECULAR STRUCTURE, ITHE LARVAE TO BE. BALBIANI RING PROTEIN 3 COULD FOLL AS A TRANSPORT PROTEIN THAT BINDS TO OTHER PROTEINS INTERCELLULARLY AND IN THE GLAND LUMEN IN ORDER TO PREVENT FROM FORMING WATER-INSOLUBLE FIBERS TOO EARLY.

-i- TISSUE SPECIFICITY: SALIVARY GLAND.

-i- TISSUE SPECIFICITY: SALIVARY GLAND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
REPEAT
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Pterygota;
                                                                                                                                               Repeat; Signal.
SIGNAL 1
                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-SALIVARY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N:A
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                                                                                                                                                                                             PRINTS;
                                                                                                                                                                                                                                                                           EMBL;
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                                                                                                                                                                                                              INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              304 CGPHKELDRNSCQCVCKNKLFPSQCGANREFDENTCQC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CERRKHLFVQTCKCSCKNT--DSRCKARQLENERTCRC
                                                                                                                                                                                                                                                        S08167; S08167
                                                                                                                                                                                                                                                                              X52263; CAA36506.1;
                                                                                                                                                                                                                                    P18055;
    . Similarity
15; Conserv
                                                                                                                                                                                         PR00876; MTNEMATODE
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                                                                                                        7, 1;
1700 AA;
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Metazoa; Arthrop
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Conservative
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Pred.
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N-LINKED (GLCNAC. . .) (P
N-LINKED (GLCNAC. . .) (P
N-LINKED (GLCNAC. . .) (P
; 9F598719DB3E014F CRC64;
                       Score 71;
Pred. No.
                                                                                                                                                 POTENTIAL.
                                                                                                                                BALBIANI RING
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                                                                                                          34202B28521B0815 CRC64;
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0.062;
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                                             Length 1700,
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RESULT 12
VEGC_MOUSE
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Mammalia; E
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                                                                                         CHAIN
DOMAIN
REPEAT
                                                                                                                              PROPEP
                                                                                                                                                                   PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Fitz I.J., Morris J.C., Towler P., Long A., Burgess P., G
Wang J., Gassaway R., Nickbarg E., Kovacic S., Clarletta
Giannotti J., Finnerty H., Zollner R., Beier D.R., Leak L
Turner K.J., Wood C.R.;
"Characterization of murine Flt4 ligand/YEGF-C.";
Oncogene 15:613-618(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Joukov V., Alitalo K.;
"VEGF-C receptor binding and pattern of expression with VEGFR-3 suggests a role in lymphatic vascular development.";
Development 122:3829-3837(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUL-1998 (Rel. 36, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (FLT4 LIGAND)
                                                                                                                                                                                                                                                       EMBL; U73620; AAC52984.1;
EMBL; U58112; AAB46707.1;
HSSP; P15692; 1VPF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE; 97164697.
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                                                                                                                                                                                                       PFAM; PF00341; PDGF; 1
                                                                                                                                                                                                                    MGD; MGI:109124; VEGFC.
INTERPRO; IPR000072; -.
INTERPRO; IPR002400; -.
                                                                                                                                                                                                                                                                                                                                                                                                           -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-BALB/C;
   SEQUENCE
                                                                                                                                             SIGNAL
                                                                                                                                                                                            PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 97388482.
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                                                                                                                                                      PS00249;
PS50278;
Growth fa
                                                                                                                                                                                            PR00438;
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9; PDGF_1; 1.
8; PDGF_2; 1.
                                                                                                                                                        factor;
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415
361
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318
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Rodentia;
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      46471
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                                                                                                      POTENTIAL.
VASCULAR ENDOTHELIAL GROWTH
4 X 24 AA TANDEM REPEATS.
                                                                                                                                             POTENTIAL.
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                                                                                                                                                        Signal;
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      CRC64;
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              (POTENTIAL).
(POTENTIAL).
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CRSS_YEAST STANDARD; PRT; 69
ID CRSS_YEAST STANDARD; PRT; 69
AC P41902;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence updat
DT 01-NOV-1995 (Rel. 32, Last sequence updat
DT 30-MAX-2000 (Rel. 39, Last annotation up
DE METALLOTHIONEIN_LIKE PROTEIN CRS5.
GN CRSS OR YORO31W;
OC Saccharomyces cerevisiae (Baker's yeast)
OC Eukaryota; Fungi; Ascomycota; Saccharomyces
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE; 95014318:
RA CLIOTTA V.C., Howard W.R., Liu X.F.;
RT "CRS5 encodes a metallothionein-like prof
RT "CRS5 encodes a "RT "CRS5 "
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                _SHEEP STANDARD; PRT; 146 AA. P50412; Proceed (Rel. 34, Created) 01-OCT-1996 (Rel. 34, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; L29056; AAA66061.1; -.
EMBL; X87331; -; NOT_ANNOTATED_CDS.
SGD; S0005557; CRS5.
Metal-binding; Netal-thiolate cluster; Chelation.
Metal-binding; Netal-thiolate cluster; Chelation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               de Haan M., Maarse A.C., Grivell L.A.;
Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: CRITICAL ROLE IN COPPER (SPECIFIC) HOMEOSTASIS AND
DETOXIFICATION. MAY PROTECT BY DIRECTLY CHELATING AND SEQUES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -!- SIMILARITY: BELONGS TO FAMILY 13 IN METALLOTHIONEIN SUPERFAMILY
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milarity 31.6%;
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Pred. No.
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                         (VEGF) (VASCULAR
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Ovis aries (Sheep).

Ovis aries (Sheep).

Ovis aries (Sheep).

Covidata; Cetartiodactyla; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                            MUB1_XENLA
P38565;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      factor (VEGF) in the ovine corpus luteum.";
J. Reprod. Fertil. 108:157-165(1996).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                     01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
INTEGUMENTARY MUCIN B.1 (FIM-B.1) (FRAGMENT).
Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                           XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X89506; CAA61677.1;
HSSP; P15692; 1VPF.
INTERPRO; IPRO00072; -.
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  SEQUENCE FROM N.A. MEDLINE; 91002513.
                                                                                           Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Me
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                                                                       Xenopodinae; Xenopus.
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SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                                                                                                                                                                         FLQHNKCECR--PKKDKARQE----KCDKPRR 146
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PS50278; PDGF_2; 1.
Growth factor; Glycoprotein;
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VASCULAR ENDOTHELIAL GROWTH F
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . . ) (POTEN
M; 4E792CB557F91760 CRC64;
                                                                                         a; Craniata; Vertebrata; Euteleostomi; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 61; DB
Pred. No. 0.86
4; Mismatches
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0.86;
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-!- FUNCTION: COULD BE INVOLVED IN DEFENSE AGAINST MICROBIAL
-!- FUNCTIONS: PROTECTS THE EPITHELIA FROM EXTERNAL ENVIRONMENT.
-!- SUBCELLULAR LOCATION: SECRETED.
-!- TISSUE SPECIFICITY: EXPRESSED AND STORED EXCLUSIVELY IN MATURE
-!- TISSUE SPECIFICITY: EXPRESSED AND STORED EXCLUSIVELY IN MATURE
MUCOUS GLANDS OF THE SKIN.
-!- PTM: EXTENSIVELY O-GLYCOSYLATED.
-!- SIMILARITY: CONTAINS 1 C-TERMINAL CYSTINE KNOT-LIKE DOMAIN (CTCK).
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                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
PIR; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                   REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                  Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          between the Swiss Institute of Bioinformathe European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "An integumentary mucin von Willebrand factor.";
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PIR; A35281; A35281.
HSSP; P04355; 4MT2.
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                                                   HMWQTGCDVCTCNGTSGKTQCAPRQCEKEIICKSDERR
                                                                      HLFVQTCK-CSCKNTD--SRCKARQLENERTCRCDKPR
                                                                                          ch 25.1
1 Similarity 34.1
13; Conservative
                                                                                                                                                                                                                                                                                                                                           E; PS01185; CTCK_1
E; PS01225; CTCK_2
; Amphibian skin;
                                                                                                                                                                                                                                                                                                                                                                            PS01208;
                                                                                                                                              398
                                                                                                                                                                 Gertzen E.-M.,
           November
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208; VWFC; 1.
185; CTCK_1; 1.
225; CTCK_2; 1.
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Pred. No. 2.2;
7; Mismatches
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237
1 CERRKHLFVQTCK
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Copyright (c) 1993 - 2000 Comp
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sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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Q9xsf4 canis famil
Q60720 homo sapien
Q9xsf5 canis famil
Q9qxg7 rattus norv
Q16889 homo sapien
Q75875 homo sapien
Q75875 homo sapien
Q73682 brachydanio
Q9u123 homo sapien
Q9x446 chironomus
Q9x448 chironomus
Q9x448 chironomus
Q9x450 bos taurus
                                                                                                                              077643 ovis aries
Q9xsf3 canis famil
Q9qx39 spalax leuc
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54	54	54.5	54.5	54.5	55	55	55	55.5	56	56	56	57.5	58	58	58.5	59	59	59	60	60	61	61	61	61	61
	•	23.0	23.0	23.0	23.2	23.2	23.2	23.4	23.6	23.6	23.6	24.3	24.5	24.5					25.3		25.7	•		25.7	25.7
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ALIGNMENTS

PRELIMINARY;

PRT;

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RESULT 2
033672 PRELIMINARY, PRT;
ID 063672 PRELIMINARY, PRT;
AC 063672; Q63882;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
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                                                                                                                                                                 Query Match 86.9%;
Best Local Similarity 90.9%;
Matches 40; Conservative
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Q9XT61;
01-NOV-1999
01-NOV-1999
01-MAY-2000
                                                                                                                                                                                                                                                       Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF106942; AAD20589.1; -.
INTERPRO; IPR003072; -.
PFAM; PF00341; -DGF; 1.
NON_TER 1
                                                                                                                                                                                                                                                                                                                                  "Constitutive expression of VEGF, VEGFR-1 and VEGFR-2 in normal eyes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1999 (TIEMBLIEL. 12, Created)
01-NOV-1999 (TIEMBLIEL. 12, Last sequence update)
01-NAY-2000 (TIEMBLIEL. 13, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
TISSUE=LUNG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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Adamis A.P.,
                                                                                                            59
                                                                                                                                      N
                                                                                                                        ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR 41
                                                                                                          ERRKHLFVQD?QTCKCSCKNTDSRCKARQLELNERTCRCDKPRR 102
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Pred. No. 5.3e-22;
0; Mismatches 0
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                                                                                                                                                                                              Length 102;
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RESULT 077643
     Cheung CY:. Brace RA:

"Ovine vascular endothelial growth fa
"ovine vascular endothelial growth fa
expression in fetal tissues.";
Growth factors 0:0-0(1998).
EMBL; AR071015; ARC23608.1; -.
HSSP; p15692; 2VGH.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B:
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077643;
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Mammalia; Eutheria; Cetartiodactyla; Ru
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01-NOV-1998 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
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STRAIN-COLUMBIA-RAMBOULLIET;
                                                                                                                                                                                                              Ovis aries (Sheep).
                                                                                                                                                                             Bovidae;
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Ruminantia; Pecora;
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Matches 40; Conserv
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                                                                                                                                                                                                                                                                                               90.9%;
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Pred. No. 5.3e-22;
0; Mismatches 0;
Nucleotide sequence
                                                                                                                                                                                                                                                                                                         Length 102;
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                                                                                Euteleostomi;
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Eukaryota; Metaboa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1999 (TREMBLICE: 12, 01-NOV-1999 (TREMBLICE: 12, 01-JUN-2000 (TREMBLICE: 14,
                                                                                                                                                                                                                                                                                                                                Submitted (MAR-1999) to the EMBL; AF133248; AAD29682.1; INTERPRO; IPRO00072; - PFAM; PFO0341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PISSUE=HEART;
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                                      2 ERRKHLFV----
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                      40;
                                                                                                                                                      Similarity
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190 AA; 22292
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                                                                                                                   Score 206; DB 6;
Pred. No. 8.7e-22;
D; Mismatches 0
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; Fissipedia;
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ia; Canidae;
                                                                                                                      0;
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         190
                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Euteleostomi;
Canis.
                                                                                                                             4;
                                                                                                                             Gaps
                                                                                                                             2
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SQUARE PROPERTY OF THE PROPERT

SEQUENCE

OF 29-51 FROM N.A. 93343939.

SEQUENCE OF 29-52 FROM N.A.
STRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
Yakovlev A.G., Raden A.I.;
Submitted (JUL-1993) to the EMBL/Ger

EMBL/GenBank/DDBJ databases

Kim I., Ryan A., Rohan R., Miller J., Adamis A.P.; Submitted (MAY-1998) to the

the

EMBL/GenBank/DDBJ

databases

Aquilar

s;

Amano

; S

Brown L.F

Mammalia; Eutheria; Rodentia; [1] Rattus norvegicus (Rat). Eukaryota; Metazoa; Chordata; 01-NOV-1998 (TREMBLIEL 08, 01-MAY-2000 (TREMBLIEL 13, VASCULAR ENDOTHELIAL GROWTH

Last sequence update)
Last annotation update)
FACTOR (VEGF188) (FRAGMENT).

-Matches Best Local

40;

Conservative

0;

Pred. No. 8.70
0; Mismatches

8.7e-22; ches 0;

Indels

4;

Gaps

2

Similarity

90.9%;

Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.

SEQUENCE FROM N.A.

STRAIN-CD;

TISSUE-LUNG;

Biochem. Biophys. Res. Commun. 194:799-803(1993). EMBL; AF062644; AACL6448.1; -. EMBL; 120913; AAA42334.1; -. EMBL; S64321; CAB32322.1; -.

PFAM;

PF00341; PDGF;

102 AA;

12163

WW;

CDFC6A6914D07D2B CRC64;

NTERPRO;

592; 2VGH. IPR000072; -.

NON_TER

"Expression of vascular endothelial growendothelial cells from brain microvessel

endothelial growth factor

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cultured

Ladoux A., Frelin C.;

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ഗ
PRELIMINARY;
PRT;
190
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SO DE RELEVE DE RESERVA DE RESERV
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Q9QX39
PEAM; PE00341; POGE; 1
PROSITE: PS00249; PDGF; 1
SEQUENCE 190 PA; 22489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9QX39
Q9QX39;
01-MAY-2000
01-MAY-2000
01-JUN-2000
                                                                                                                                                                                                                   MEDIINE; 99313148.

Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;

"Adaptive hypoxic tolerance in the subterranean mole rat Spaehrenbergi: the role of vascular endothelial growth factor.'

FEBS Lett. 452:i33-140(1999).

EMBL, AF186236; AAD56245.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata
Mammalia; Eutheria; Rodentia; Sciurognathi; Murida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spalax.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. 13, Created)
(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 14, Last annotation updat
(TrEMBLrel. 14, Last annotation updat)
                                      )GF; 1.
22488
                                                MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                        the subterranean mole rat Spalax
                                                2228383BC65F0BFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                CRC64;
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SOUTH THE TRANSPORT OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-AUG-1998
01-MAY-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'Estra (Human).
Homo sapiens (Human).
Homo sapiens (Human).
'``rvota; Metazoa; Chordata;
'``rvota; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRAM; PRO0341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Wammalia: Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                             Jingjing L., Roque R.S.;
Submitted (MAY-1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF062645; AAC16730.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; aF133249; aAD29683.1; INTERPRO; IPR000072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the
                                             Signal.
SIGNAL
                                                                                                                                                                                                                                                                                    TISSUE-RETINA,
                                                                                                                                                                                                                                                                                                           SEQUENCE OF 114-209 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                 Biochim. Biophys. Acta, Gene
                                                                                                                                                                                                                                                                                                                                                                   Lei J., Jiang A., Pei D.;
"Identification and characterization
"ascular endothelial growth factor: V
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
TISSUE=KIDNEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            060720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9XSF4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9XSF4
                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 99096474.
                                                                                                              PROSITE;
                                                                                                                              HSSP; P15692; 2VPF.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P15692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l Similarity
40; Conserv
                                                                                     PS00249; PDGF; PD001629; -; 1.
    1
27
209 i
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(TrembLrel. 10, Last sequence update)
(TrembLrel. 14, Last annotation update)
TEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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    A,
26 P
209 V
24422 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90.98;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 206; DB Pred. No. 9.4e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
FACTOR 182.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                      Struct.
POTENTIAL.
VEGF183 PROTEIN.
F01CCEACD945D6CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CF77AC591F5C2BBE
                                                                                                                                                                                                                                                                                                                                                                          vEGF183.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         209
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 6;
.4e-22;
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                                                                                                                                                                                                                                                                                                                                                                              new
83. "
                                                                                                                                                                                                                                                                                                                                                                                            splicing variant
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FACTOR 183).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4;
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RESULT PROSULT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OR RESULT OR SERVICE O
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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Best Local S
Matches 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                            Query Match
Best Local :
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   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the E
EMBL; AF133250; AAD29684.1;
INTERPRO; IPRO00072;
PPAM; PF00341; PDGF; 1.
                                                                                                                                                                                                 (VEGF-A) splicing variants, V masseter muscle: ", Submitted (DEC-1999) to the E EMBL; AF215725; AAF19211.1; - INTERPRO; IPRO00072; - PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9XSF5
Q9XSF5;
Q1-NOV-1999
Q1-NOV-1999
Q1-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9QXG7
Q9QXG7;
01-MAY-2000 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEG: VEG: (Dog).
Canis familiaris (Dog).
Canis familiaris (Chordata; C
Eukaryota; Metazoa; Chordata; C
Eukaryota; Metazoa; Carnivora;
                                                                                                                                            PROSITE;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1999 (TrEMBLrel. 12,
01-NOV-1999 (TrEMBLrel. 12,
01-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 %A; 25151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                           ishii H., Arakawa T., Okayama M., Oota
Developmental expression of vascular e
(VEGF-A) splicing variants, VEGF-A188,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 ERRKHLFV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERRKHLFV---QTCKCSCKNTDSRCKARQLE-NERTCRCDKPRR
|||||||||
ERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ch 86.9%;
l Similarity 90.9%;
40; Conservative
   40;
                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                               PS00249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                               A,
                                                                                                                                            PDGF; 1.
1; 25239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86.9%;
90.9%;
                            90.9%;
                                                                                                                                               MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 206; DB 6; Pred. No. 9.6e-22; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
FACTOR 188.
                                                                                                                                                                                                                                                                      EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
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0
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Pred.
                            Score 206;
Pred. No. 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Ve; ; Fissipedia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Veri
Sciurognathi;
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MEDLINE; 92168017.
Houck K.A., Ferrara N., Wi
"The vascular endothelial
                                                                                    Claffey K.P., Shih S.-C., Mullen A., Dziennis Abrams K.R., Lee S.W., Detmar M.;
"Identification of a human VPF/VEGF 3' untrans hypoxia-induced mRNA stability.";
Mol. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
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31.; S85219; AAC63101.1;
31.; S85201; AAC63101.1;
32.; S85219; AAC63101.1;
33.; S85222; AAC63101.1;
34.; S85222; AAC63101.1;
35.; S85222; AAC63101.1;
37.; P15692; 2VPF.
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042572;
01-JAN-1998
01-JAN-1998
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                088911;
088911;
01-NOV-1998
01-NOV-1998
01-JUN-2000
                                                                                                  "Expression of Messenger RNA Splice Variants for Vascular Growth Factor in the Adult Rat and Human Penis."; Submitted (JUL-1998) to the EMBL/GenBank/DDBJ databases. EMBL, AF080594; AAC36708.1; -
HSSP; P15692; IVPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cleaver O., Tonissen K.F., submitted (JUN-1997) to the EMBL; AF008594; AAB63680.1; HSSP; P15992; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; C
Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF; 1. PRODOM; PD001629; -; 1.
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INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00245; PDGF; NON_TER 1, 1
                                                                                                                                                                                                                                                                                                             STRAIN=SPRAGUE-DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VASCULAR ENDOTHELIAL
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Bukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 IA;
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  PDGF;
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                                                                                                                                                                                                                                                                                        TISSUE=PENIS;
t T., Chen M.-W.,
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ta; Craniata; Ver
; Mesobatrachia;
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Last sequence update)
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FACTOR A 110 PRECURSO
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EMBL/GenBank/DDBJ dat
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Pred. No. 1.6e
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata;
Sciurognathi; Muridae;
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ia; Pipoidea;
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.5e-21;
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.6e-19;
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; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
; Murinae; Rattus.
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Best Local S
Matches 31
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A Lam T.J., Weinberg E.S., Ge R.;
T "Cloning and characterization of vascular endothelial growth fact
T (VEGF) from zebrafish, Danio rerio.";
L Biochim. Biophys. Acta 1397:14-20(1998).
R EMBL; AF016244; AAC41274.1; -.
R EMBL; AF0162242; AAC41274.1; -.
R ESSP; P1692; 2VGH.
R ZFIN; ZDB-GENE-990415-273; vegf.
R INTERPRO; IPR000072; -.
R PFAM; PF00341; PDGF; 1.
R PFAM; PF00341; PDGF; 1.
R PFAM; PD001629; -; 1.
R PFONDOM; PD001629; -; 1.
R PFONDOM; PD001629; -; 1.
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Best Local
                                                                                                                                                                                                                                                                                                                                            01-MAY-2000 (TIEMBLIEL 13, Created)
01-MAY-2000 (TIEMBLIEL 13, Last sequence update)
01-JUN-2000 (TIEMBLIEL 14, Last annotation update)
VASCULAR PERMEABILITY FACTOR 148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brachydanio rerio (Zebrafish) (Zebra danio).
Bukaryota; Metazoa; Chordata; Craniata; Futeleostomi;
Bukaryota; Metazoa; Chordata; Cantata; Futeleostei; Ostariophysi
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1998 (TIEMBLIEL 07, Created)
01-AUG-1998 (TIEMBLIEL 07, List sequence update)
01-JUN-2000 (TIEMBLIEL 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 165.
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                    "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant."; Clin. Sci. 97:303-312(1999).
                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE-GLOMERULI;
Whittle C.J., Gillespie K.M., Harrison
                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9UL23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE; 98222600.
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                                                                                                                                                                                                                                                                          Mammalia; Eutheria;
                                                                                                                                   Harper S.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                146 ERRKRLYVODPLTCKCSCKFTQMQCKSRQLELNERTCRCEKPR 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 72.1 hes 31; Conservative
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AF091352;
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32; Conserv
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72.1%;
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Pred. No. 3.7e-15;
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Pred. No. 8.3e-18;
1; Mismatches 0;
                                                                                                                                                                                                                                                                       Craniata; Vo
Catarrhini;
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                                                                                                                                                             R., Mathieson P.M.,
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i; Hominidae; Homo.
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PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 174 AA; 20218 !
148 ERRKHLFVQDPQTCKCSCKNTDSRCK 173
         2 ERRKHLEV---QTCKCSCKNTDSRCK 24
                                                Similarity
                                       Conservative
                                                                                           20218 MW;
                                                51.3%;
88.5%;
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Search completed: Job time: 614 sec

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Result
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Maximum DB seq length: 2000000000
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1: pir1:*
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Match
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Gapop 10.0 , Gapext 0.5
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138
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Copyright (c) 1993 - 2000 Compugen Ltd.
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43.5	43.5	44	44	44	44	44	44	44	44	44	44	44	44.5	44.5	44.5
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	ALIGNMENTS
	A41551
	vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor
	N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VE C;Species: Homo sapiens (man)
	C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551: C41551: B41551: A40454: B40454: C40454: A40079: A40080: J01463:
	A; Title: The vascular endothelial growth factor family: identification of a fourth mo
	A; Reference number: A41551; MUID: 9216801/ A; Accession: A41551
מ מזונ	A; Molecule type: mRNA
printed,	A;Cross-references: 3B:S85192; NID:g246155; PID:g246156
	A; Accession: C41551
	A; Molecule type: mRNA
	A; Residues: 1-140, 'N', 183-232 <hou2></hou2>
otion	A; Status: nucleic acid sequence not shown; not compared with conceptual translation
ar endotheli	A; Residues: 1-141.227-232 <hou></hou>
ar endotheli	R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.;
ar endotheli	A: Title: The human game for vascullar endothelial growth factor. Multiple protein form
ar endotheli	A; Reference number: A40454; MUID:91268072
vascular end	A; ACCESSION: A40424 A.M. ACCESSION: A40424
derived vas	A;Residues: 1-165,183-232 <tii></tii>
ar endotheli	A;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976;
cal growth f	A; Molecule type: DNA
tal growth f ar endotheli	A;Residues: 1-140,'N',183-232 <tii2> A;Residues: 1-140,'N',183-232 <tii2> A;Cross-references: 3B:M63971: GB:M63972: GB:M63973: GB:M63974: GB:M63975: GB:M63977:</tii2></tii2>
ar endotheli	A; Accession: C40454
/threonine-p	A; Residues: 1-141,227-232 <ti3></ti3>
etical prote	A;Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
etical prote	K;KeCK, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connoily, D. Science 246, 1309-1312, 1989
	A; Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
rotein – yea eactive phos	A;Reference number: A40079; MUID:90069609 A;Accession: A40079
etical prote	A; Status: not compared with conceptual translation
etical prote	A; Molecule type: mRNA
etical prote le oxidoredu	A; Residues: 1-165,183-232 <kec> A: Tross-references: (R-M37281: NTD-9340300: DTDN-AAA36807 1: DTD-9340301</kec>
etical prote	R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
etical prote heavy chain	Science 246, 1306–1309, 1989 A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
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A; ACCESSION.

A; Molecule type: protein
A; Residues: 27-36; 43-49, 'R'; 72-76, 'Q', 78-81; 59-71 <CON>
A; Residues: 27-36; 43-49, 'R'; 72-76, 'Q', 78-81; 59-71 <CON>
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A;Residues: 1-140,'N',227-232 <WE2>
A;Residues: 1-140,'N',227-232 <WE2>
A;Residues: 1-140,'N',227-232 <WE2>
A;Resperimental source: AIDS-Kaposi's sarcoma cell
R;Connolly, D.T.; Olander, J.Y.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.;
J. Biol. Chem. 264, 20017-20024, 1989
A;Title: Human vascular permeability factor. Isolation from U937 cells.
A;Reference number: A34492; MUID:90062112
A;Accession: A34492
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Biochem. Biophys. Res. Commun. 183, 1167-1174,
A;Title: AIDS-associated Kaposi's sarcoma cell:
A;Reference number: JQ1463; MUID:92231879
A;Accession: JQ1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Accession: S52130
R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues: 1-140,'N',183-232 <WEI>
A;Cross references: EMBL:X62568; NID:g37658;
A;Experimental source: AIDS-Kaposi's sarcoma
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A;Accession: A40080
A;Status: not compared with conceptual tr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Title: Nucleotide sequence and expression of A; Reference number: S52130; MUID:95143284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vascular endothelial growth factor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
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                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:X81380; NID:g587559;
                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status
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Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
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92.3%;
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96.2%;
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.9e-13;
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A; Residues: 27-38 <ROS>
C; Keywords: alternative splicing;
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A; Residues: 1-214 <BRE>
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A; Residues: 1-190 <BRE>
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A; Molecule type: mRNA, A; Residues: 1-140,205-214 <BR2>
A; Residues: 1-140,205-214 <BR2>
A; Residues: 1-140,205-214 <BR2>
A; Rotoss-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A; Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
A; Rotlauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y
J. Exp. Med. 172, 15:5-1545, 1990
A; Title: Vascular permeability factor: a tumor-derived polypeptide that induces endot A; Reference number: £60932; MUID:91079755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: A61029; MUID:91197543
A; Accession: A61029
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A;Residues: 1-116,'ER';119-190 <CLA>
A;Residues: 1-116,'ER';119-190 <CLA>
A;Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
A;Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675)
R;Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
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C;Date: 03-Feb-1994 *sequence_revision 03-Fe
C;Accession: B44881; 'A43351; A61029
R;Breier, G; Albrecht, U; Sterrer, S.; Ris
Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W. Development 114, 521-532, 1992
A;Title: Expression of vascular endothelial growth factor during embryonic angiogenes A;Reference number: A4881; MUID:92274860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994
C;Accession: A44881; C44881; S52136
                                                                                                                                                                                                                                                                   A;Experimental source: embryo
A;Note: sequence extracted from NCBI backbone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor-3 precursor - mouse N; Contains: vascular endothelial growth factor-2; vascular permeability factor
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A;Accession: A43351
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Sterrer, S.; Risau,
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.2e-12;
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A;Molecule type: protein
A;Residues: 27-33 <CLA>
R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is
A;Reference number: S52136; MUID:95101726
A;Accession: S52136
                                                                                                                     A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-146 <RED>
                                                                                                                                                                                                                                                            ovine vascular endotherial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon arioc;Date: 13-Jan-1996 #sequence_revision Ol-Mar-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem. Biophys. Res. Commun. 165, 1198-1206, A; Title: Vascular endothelial growth factor: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vascular endothelial growth factor (version 1) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text C;Accession: A33787
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A;Accession: A33787
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                                                                                                     A;Cross-references: EMBL:X89506; NID:g899350;
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Best Local S
Matches 23
                Query Match
Best Local S
Matches 23
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23; Conserv
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pred. No. 9.
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ry, July 1995
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                Score 121; DB 2;
Pred. No. 8.7e-12;
0; Mismatches 3
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Pred. No. 7e-12;
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.4e-12;
                                                                                                     PIDN:CAA61677.1; PID:g899351
                                                                                                                                                                                                                              Moor,
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#text_change 05-Nov-1999
                                               Length 146;
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A; Accession type: protein
A; Residues: 27-31 <FER>
C; Reywords: alternative splicing; glycoprotein
C; Reywords: alternative splicing; glycoprotein
F; 1-26/Domain: signal sequence #status predicted <SIG>
F; 27-190/Product: vascular endothelial growth factor #status
F; 27-190/Product: carbohydrate (Asn) (covalent) #status
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A; Residues: 1-190 (LIDV)
A; Cross-references: GB: M32976; NID: g163006; PIDN: AAA30502.1; PID: g163007
A; Cross-references: GB: M32976; NID: g163006; PIDN: AAA30502.1; PID: g163007
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.;
Biochem. Biophys. Res. Commun.. 165, 1198-1206, 1989
A; Title: Vascular endothelial growth factor: a new member of the platelet-derived
A; Reference number: A33787; MUID: 90121225
A; Accession: B33787
                                                                                                                                                                                                                                                                                    R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K. Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial A;Reference number: A35987; MUID:90207249
A;Accession: A35987;
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Biochem. Biophys. Res. Commun. 161, 851-858,
A;Title: Pituitary follicular cells secrete &
A;Reference number: A33255; MUID:89286596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; (Science 246, 1306-1309, 1989)
A;Title: Vascular enjothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular endothelial growth factor precursor (version 2) - C; Species: Bos primigenius taurus (cattle) C; Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_cl C; Accession: B40080; B33787; A33255
                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1 190 <CON>
                                                                                                                                                                                                                                                                                                                                                                                                               C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C;Accession: A35987
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A;Residues: 27-190 <TIS>
A;Cross-references: $B:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
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A;Accession: B40080
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Species: Rattus norvegicus (Norway rat)
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CNDEGLESVPTEESNITMQIMRIKPH 26
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22; Conserv
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23; Conserv
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88.5%;
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84.6%;
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Pred. No. 1.2e-11;
1; Mismatches 3
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Pred. No. 1
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C;Accession: I51295
R;Flamme, I; Breier, G; Risau, W.
Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endothelial growth factor
A;Reference number: I51295; MUID:95301109
A;Accession: I51295
A;Status: preliminary; translated from GB/EM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vascular endothelial growth factor homolog A2R, 14.7K - Orf virus
C;Species: Orf virus
C;Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
C;Accession: B49530
                                                                                                                                                           placental growth factor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change
C;Accession: A56125
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A;Molecule type: DNA
A;Residues: 1-133 <LYT>
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J. Virol. 68, 84-92, 1994
A;Title: Homologs of vascular endothelial
A;Reference number: A49530; MUID:94076465
A;Contents: NZ2
A;Accession: B49530
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A; Gene: VEGF
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
                                                                                               R;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification_and_characterization of a naturally occurring vascular endometric purification.
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A;Residues: 1-128 <FLA>
A;Cross-references: GB:S78343;
A;Status: preliminary; not
A;Molecule type: mRNA
A;Residues: 1-158 <DIS>
                                                         A; Reference number: A56125; A; Accession: A56125
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17; Conservative
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Pred. No. 8.2e-06;
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R;Maglione, D.; Guerriero, V.; Viglietto, G.; Delli-Bovi, P.; Persico, M.G. Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A;Title: Isolation of a human placenta cDNA coding for a protein related to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Date: 19-Jun-1992
C; Accession: A41236
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C;Keywords: glycoprotein
                                      A;Gene: vii
A;Map position: 19
A;Map position: 137/2
F;1-21/Domain: signal sequence #status predicted <SIG>
F;1-21/Domain: vascular endothelial growth factor-related factor
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                                                                                                                                                                      A;Cross-references: GB:U43837; NID:g1314335; PIC;Comment: This factor is a mitogen, that is se ar endothelial growth factors 167 and VEGF 186.
                                                                                                                                                                                                                    R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related 1
A;Reference number: JC4679; MUID:96183052
A;Accession: JC4680
A;Accession: JC4680
A;Residues: 1-188 <TOW>
                                                                                                                                                                                                                                                                                                                                                        N; Alternate names: VRF 167 protein C; Species: Mus musculus (house mouse)
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A; Residues: 1-149 <MAG>
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                                                                                                                                        A;Gene: vrf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GB:X54936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A41236; MUID:92021031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GB:L40030; NID:g1263413; PIDN:AAA97426.1; PID:g1263414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       *sequence_revision 19-Jun-1992 *text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54.3%;
47.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NID:g35521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OMIM:601121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 75;
Pred. No.
Score 66;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIDN:CAA38698.1;
                                                                                                                                                                                                                                                                                                                                                                                                           factor 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.00013;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.00017
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                                                                                                                                                                                      PIDN:AAC52553.
selective for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
DB 2;
0.006;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for a protein related to
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                 Length 188
                                                                                                                                                                                                                                                                                              factor gene
                                                                                                                                                                                                                                                                                                                            G.;
                                                                                                                                                                                                                                                                                                                                                                                                             precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                              Nordenskjoeld,
                                                                                                                                                                                         .1; PID:g1314336 endothelial cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PID:g35522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                 mouse
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Conservative

5.

Mismatches

Indels

0;

Gaps

0

bel

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Mol. Gen. Genet. 230, 230-240, 1991
A;Title: Molecular analysis and nucleotide sequence of the envCD operon of Escherichia A;Title: Molecular analysis and nucleotide sequence of the envCD operon of Escherichia A;Reference number: $18536; MUID:92079901
A;Recession: $18536
A;Accession: $18536
A;Accession: $18536
A;Residues: 1-190, 'AL', 193, 'SLM', 197, 'KRLNWRLSSSSILST', 213-312, 'T', 315-385 <KLE>A;Cross-references: EMBL:X57948
A;Residues: 1-190, 'AL', 193, 'SLM', 197, 'KRLNWRLSSSSILST', 213-312, 'T', 315-385 <KLE>A;Cross-references: EMBL:X57948
A;Residues: 1-190, 'AL', 193, 'SLM', 197, 'KRLNWRLSSSSILST', 213-312, 'T', 315-385 <KLE>A;Cross-references: EMBL:X57948
A;Residues: 1-190, 'AL', 193, 'SLM', 197, 'KRLNWRLSSSSILST', 213-312, 'T', 315-385 <KLE>A;Cross-references: EMBL:X57948
A;Reference number: $1865
A;Accession: $1865
A;Accession: $18665
A;Accessi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; NCICCUS TRINA
A; Molecule type: mRNA
A; Residues: 1-207 <TOW>
A; Residues: 1-207 <TOW>
A; Residues: 1-207 <TOW>
A; Residues: 1-207 <TOW>
A; CFORMENT: This factor is a mitogen, that is selective for endothelial cells, and lar endothelial growth factors 167 and 186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Escherichia coli
C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 08-Oct-1999
C;Accession: C65119; S18536; S18665
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.;
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 1-385 <BLATS
A;Residues: 1-385 <BLATS
A;Cross-references: GB:AE000405; GB:U00096; NID:g1789659; PIDN:AAC76297.1; PID:g1789665;
A;Experimental source: strain K-12, substrain MG1655
A;Experimental source: plapp, R.
R;Klein, J.R.; Henrich, B.; Plapp, R.
Mol. Gen. Genet. 230, 230-240, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Reference number: A64720; MUID:97426617
A;Accession: C65119
A;Status: nucleic acid sequence not shown; translation not show
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Map position: 19 C;Keywords: growth factor F;1-21/Domain: signal sequence #status predicted <SIG> F;2-207/Product: vascular endothelial growth factor related factor #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R:Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, M.; Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related factor gene.
A;Reference number: JC4679; MUID:96183052
A;Accession: JC4679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vascular endothelial growth factor-related factor 186 precursor - mouse N;Alternate names: VRF 186 protein, VEGF 186
C;Species: Mus musculus (house mouse)
C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acriflavin resistance protein acrE precursor - Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 47.8
Best Local Similarity 50.0
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | |:||| ||| : |||: |:
82 CPDDGLECVPTGQHQVRMQILMIQ 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82 CPDDGLECVPTGQHQVRMQILMIQ 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  envelope protein
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50.0%;
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Pred. No. 0.0067;
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A,Gene: acrE; envC
C;Superfamily: lipoyl/biotin-binding homology
C;Superfamily: lipoyl/biotin-binding homology
C;Keywords: cell division; lipoprotein
E;1-23/Domain: signal sequence #status predicted <SIG>
F;24-385/Product: acriflavin resistance protein acrE #status predicted <MAT>
F;60-103;175-204/Domain: lipoyl/biotin-binding homology #status atypical <LPB>
                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:X57948; NID:g510827; PIDN:CAA41016.1; PID:g510829 A;Experimental source: strain K-12 C;Genetics:
Search completed:
Job time: 183 sec
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                                                                                                                                                                                  Query Match
Best Local S
Matches 9
                                                                                                                                                                                Local Similarity
les 9; Conserv
                                                                                                   24 CNDKGEEKAHVGEPQVTVHIVKTAP
                                                                                                                               1 CNDEGLESVPTEESNITMQIMRIKP 25
                                                                                                                                                                                    Conservative
                November
                                                                                                                                                                                                   37.0%;
                   9, 2000, 15:32:02
                                                                                                                                                                                                     Score 51;
Pred. No.
                                                                                                   48
                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                          Length 385;
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Result
No.
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
2
3
                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                    46...
                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                               44.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein search, using sw model
  Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                         SwissProt_39:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87993 seqs, 31947931 residues
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138
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNDEGLESVPTEESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                  Length
  DВ
PDI_ASPOR
PDIS_IPOR
POLS_IPOR
XCPC_XENLA
XCPC_XENLA
PCNA_SCHPO
IPK_MYCTU
PCN2_DAUGA
VEGC_HUMAN
OSTA_SCHPO
CINB_YEAST
ADOM_BPT3
ADOM_BPT4
ADOM_BPT4
ADOM_BPT4
BGAT_HUMAN
PJ4_SOYBN
PJ4_SOYBN
                                                                                                                                                   VEGE_HUMAN
VEGE_DIG
VEGE_MOUSE
VEGE_SHEEP
VEGE_BOVIN
VEGE_RAT
VEGE_CHICK
PLGE_MOUSE
VEGE_HUMAN
VEGB_HUMAN
VEGB_HUMAN
VEGB_MOUSE
ACRE_ECOLI
VACS_YEAST
PGS1_CANFA
ENV_HVIZ2
ENST_HUMAN
                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search time 41.83 Seconds (without alignments)
19.858 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87993
                                                                                                                                                                                                                                                                                              P15692 homo sapien
P49151 sus scrofa
Q00731 mus musculu
P50412 ovis aries
P49766
P49968
P02678
P12487
P21487
P21487
P21487
P21495
P50536
P505596
Q005596
Q005596
Q00767
P010176
P07693
P07693
P1637693
P1637693
                                                                                                                                                                                                                                                                                                                                                 Description
7 human immun
6 homo sapien
8 aspergillus
5 infectious
2 xenopus lae
2 schizosacch
6 mycobacteri
5 daucus caro
7 homo sapien
6 schizosacch
7 saccharomyc
5 bacteriopha
3 caenorhabdi
8 kluyveromyc
2 h histo-blo
5 glycine max
5 pyrococcus
                                                                                                                                                                        7 cavia porce
1 bos taurus
2 rattus norv
2 gallus gall
4 mus musculu
4 orf virus (
3 homo sapien
5 homo sapien
6 mus musculu
6 mus musculu
8 saccharomyc
8 canis famil
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45	44	43	42	41	40	39	38	37	36	35	34
41	41	41.5	41.5	41.5	41.5	41.5	41.5	42	42	42	42
29.7	29.7	30.1	30.1	30.1	30.1	30.1	30.1	30.4	30.4	30.4	30.4
369	286	563	515	488	379	254	172	1514	1224	541	532
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PGS1_BOVIN	BYST_MOUSE	YAS8_SCHPO	STE7_YEAST	ZF92_MOUSE	DXR_CHLTR	SAP1_SCHPO	IMDH_METKA	YD34_YEAST	MSN5_YEAST	YB36_METJA	YKF3_CAEEL
P21809 bos taurus	٠.	Q10144 schizosacch	-	٠.	-	-	_		P52918 saccharomyc	Q58536 methanococc	P34266 caenorhabdi

ALIGNMENTS

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s and assembly of f	., Marme D., Hug H., Weich H.A.;	rer B., Schoellmann C	SEQUENCE OF 27-41.	[6]		"Human vascular bermeability factor. Tsolation from U937 cells.":)., Nelso		~		Biochem Biophys Res Commun. 183:1167-1174/1992)	- ALDS-4880CIACEJ NADOSI S SAICOMA CELIS IN CUITUIE EXPIESS VASCUIAI	K., Marne D., Weich H.A.;	MEDLINE; 92231879.	SEQUENCE FROM N.A.	Biol. Chem. 266:11947-11954(1991).	protein forms are encoded through alternative exon splicing.":		H	MEDLINE; 91268072.	SEOUENCE FROM N.A.	Science 246:1309-1312(1989).			. D. / NATITE O. / Duneo N. / Huarton	Hauser of Krivi C canzo & Warren T Feder	SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.		Science 246:1306-1309(1989).	. endocherrar	W., Cachianes G., Kuang WJ., Goeddel D.V., Ferrar	90069608.	[1] SECHENCE FROM N. A.	Primates; Catarrhini; Hominidae; Homo.	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	OR VEGFA.	PERMEABILITY FACTOR) (VPF).	(Rel. 38, Last annotation update)	(Rel. 14,		ID VEGE_HUMAN STANDARD; PRT; 215 AA.	LT 1

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endothelial growth factor.";
Structure 6:637-648(1998).
-!- FUNCTION: GROWTH FACTOR
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"The crystal structure of vascular endothelial growth factor (VEGF)
refined to 1.93-A resolution: multiple copy flexibility and receptor
binding.";
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Muller Y.A., Li B., Christinger H.W.,
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ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165, VEGF-189 AND VEGF-215).
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Biochem. 211:19-26(1993).
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SEQUENCE
             Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;

Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;

"Nucleotide sequence and expression of the porcine vascular endothelial growth factor.";

Biochim. Biophys. Acta 1260:235-238(1995).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY).

-!- SUBCELLULAR TOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
                                                                                                                                                                                                                                                                                                                                                      01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELLAL GROWTH FACTOR PRECURSOR
PERMEABILITY FACTOR) (VPF).
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PROSITE; PS50278; PDGF_2; 1.

Mitogen; Growth factor; Glycoprotein; Alternative
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Matches 24; Conservative
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               MEDLINE: 96216498.

MEDLINE: 96216498.

Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P.,

"The mouse gene for vascular endothelial growth factor.

"the mouse gene for vascular endothelial unit, and
structure, definition of the transcriptional unit, and
characterization of transcriptional and post-transcript
                                                                                                                                                                                                                                                                                                                                                                                                                  PEGF.
Mus musculus (Mouse).
Mus musculus (Mouse).
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01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
                                                                                                                                                                                     Claffey K.P., Wilkison W.O., Spiegelman B.M.; "Vascular endothelial growth factor. Regulation by differentiation and activated second messenger path
   J. Biol. Chem.
                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE; 92355593.
                                                                                                                                  SEQUENCE OF 1-3
                                                                                                                                                                                                                                                                                                     Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                    Breier G., Albrecht U., Sterrer S., Risau W.; "Expression of vascular endothelial growth factor during angiogenesis and endothelial cell differentiation.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CNDEGLECVPTEEFNITMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X81380;
P15692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                           92274860.
                                                                                                                                                                      Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS00249; PDGF_1;
PS50278; PDGF_2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
sequences.";
hem. 271:3877-3883(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27
51
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76
85
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                                                                                                                                                                    267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26
190
93
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                                                                                                                                                                                                                                                               (VEGF-1).
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92.3%;
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N-LINKED (GLCNAC. . .) (POTEN

WW.; 04D40B8D7913047F CRC64;
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Pred.
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VASCULAR ENDOTHELIAL
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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No. 3
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                                     post-transcriptional
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                                                                                                                                                                                     pathways.";
                                                                    factor. Genomic
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use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (see http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGGENESIS, AND ENDOTHE
... CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                 KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXCRESSION OF VEGE CONTINUES IN KINNEY GLOMERULI AND CHOROLD PLEXUS IN ADULTS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.
TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID, PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBUNIT: HOMODIMER, SUBCELLULAR LOCATIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VEGF-3 REMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MODIMER, DISULFIDE-LINKED.
LOCATION: VEGF-1 AND VEGF-2
INS CELL-SURFACE ASSOCIATED U
                                                                                                                       There are no restrictions on ong as its content is in no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 ARE SECRETED WHILE UNLESS RELEASED BY
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EMBL; $37052; AAB22253.1; -. EMBL; $38003; AAB22253.1; -. EMBL; $38100; AAB22254.1; -. EMBL; M95200; AAA40547.1; -. EMBL; U41383; CAB35545.1; -. EMBL; A43351; A43351.
   CHAIN
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SEQUENCE
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                                                                                                                                                                            PFAM; PF00341; PDGF; 1
                                                                                                                                             Mitogen;
                                                                                                                                                                                                MGI:103178; VEGF.
                                                                                                                                             Growth
   141
141
117
117
214 AA;
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51
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1400
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                                                                                                                                             factor;
                                                                                                                                                     PDGF_1;
                                                                                                                                           Glycoprotein; Alternative splicing; Signal.
    ¥;
                       MISSING
              GE
                                              N-LINKED (GLCNAC. . .) (PROBABLE).
K -> N (IN ISOFORM VEGF-1).
                                                                                      BY SIMILARITY
VASCULAR ENDOTHELIAL GROWTH FACTOR.
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                                                                  INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
   E -> ER (IN REF. : B5540B51E4BB6E17
  G (IN ISOFORM VEGF-1).
G (IN ISOFORM VEGF-2).
ER (IN REF. 2).
DB51E4BB6E17 CRC64;
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Query Match
Best Local Similarity
Matches 23; Conserv
VEGF_SHEEP STANDARD; PRT; 146 AA.
P50412;
P50412;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
                                                                                                      SHEEP
                                                                                                                                                                            1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                           CNDEALECVPISESNITMQIMRIKPH 111
                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                    Score 122;
Pred. No. 2.
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Best Local (
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Berse B.;
                                                                                               P26617;
01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation updat
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (
                                                                                                                                                                     _CAVPO
VEGE_(
                                                                                                                                                                                                                                                                                                                                                           CHAIN
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DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                       SEQUENCE FROM N.A.
                                                        Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X89506; CAA61677.1; HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor (VEGF) in the ovine corpus lu J. Reprod. Fertil. 108:157-165(1996) -!- FUNCTION: GROWTH FACTOR ACTIVE I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.; "Characterization and expression of vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea Bovidae; Caprinae; Ovis.
                                               Mammalia;
                                                                                             FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 97117958.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-KIDNEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ovis aries (Sheep).
                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CELL
                                                                                                                                                                     _CAVPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TO THE EXTRACELLULAR MATRIX SIMILARITY).
                                                                                                                                                                                                                                           CNDEGLESVPTEESNITMQIMRIKPH
                                                                                                                                                                                                                              CNDESLECVPTEEFNITMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF00341;
                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GROWTH. INDUCES ENDOTHELIAL PROLIFERATION.
                                               Eutheria;
                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PDGF;
                                                                                                                                                                     STANDARD;
                                               Rodentia;
                                                                                                                                                                                                                                                                                      87.7%;
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INTERCHAIN (BY SIMILARITY).
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                                                                                                                                                                                                                                                                                      Score 121;
Pred. No. 2.
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4E792CB557F91760 CRC64;
                                              Hystricognathi;
                                                          Craniata; Vertebrata;
                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                   26
                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             UNLESS
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                                                                                                       ion update)
(VEGF) (VA
                                                                                                                                                                     164 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REMAINS ASSOCIATED TO CELLS RELEASED BY HEPARIN (BY
                                                                                                                                                                                                                                                                                        .2e-12
                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                       (VASCULAR
                                              Caviidae;
                                                                                                                                                                                                                                                                                                Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                      GROWTH FACTOR.
                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             , AND ENDOTHELIAL AND VASCULAR
                                                        Euteleostomi;
                                                                                                         PERMEABILITY
                                                                                                                                                                                                                                                                                                                                                (POTENTIAL).
                                              Cavia.
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Best Local S
Matches 23
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30F_BOVIN

30F_BOVIN

STANDARD; PRT; 190 AA.

P1591;

101-APR-1990 (Rel. 14, Created)

101-APR-1990 (Rel. 14, Last sequence update)

101-CCT-1996 (Rel. 34, Last annotation update)

VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VE
Biochem.
[3]
        MEDIJINE; 9012125.

MEDIJINE; 9012125.

Tischer E., Gospodarowicz D., Mitchell R., Silva M. Lau K., Crisp T., Fiddes J.C., Abraham J.A.;

Evascular endothelial growth factor: a new member community of the second property of the s
                                                                                                                                                                                             MEDLINE, 900696/8:
Leung D.W., Cachianes G., Kua
"Vascular endothelial growth
mitogen.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID CARBOHYD SEQUENCE
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DISULFID
DISULFID
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DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                            VEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBUNIT: HOMODIMER, D:
-!- SUBCELLULAR LOCATION:
TO THE EXTRACELLULAR !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (XXX-1992) to the EMBL/GenBank/DDBJ databases -- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGERESIS, AND CELL GROWTH INDUCES ENDOTHELIAL PROLIFERATION AND PERMEABILITY
                                                                                                                                           SEQUENCE OF 27-190
                                                                                                                                                                                   Science
                                                                                                                                                                                                                                                                                                                                                                Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; M84230; AAA37057.1;
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between the Swiss Institute of Bioinf
the European Bioinformatics Institute
                                                                                                                                                                                                                                                                                                                            Bovidae;
                                                                                                                                                                                                                                                                                                                                                 Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 CNDESLECVPTEEFNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT entry is copyright. It is produced througen the Swiss Institute of Bioinformatics and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00341; PDGF;
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                                                                                                                                                                                 246:1306-1309(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                          Bovinae;
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EMBL; M31836; AAA30804.1; -.
EMBL; M31750; AAA30805.1; -.
PIR; A33255; A33255.
PIR; A33255; A33257.
PIR; A33787; A33787.
PIR; B40080; B40080.
HSSP; P15692; 2VGH.
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SEQUENCE
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MEDLINE;
                                                                              VEGE_RAT STANDARD; PRT; 190 AA. P16612; 01-AUG-1990 (Rel. 15, Created) 01-AUG-1990 (Rel. 15, Last sequence update) 01-OCT-1996 (Rel. 34, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                        RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
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"Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

Biochem. Biophys. Res. Commun. 161:851-858(1989).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                  Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
Mammalia; Eutheria; Rode
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
SEQUENCE FROM N.A., MEDLINE; 90207249.
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
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THE EXTRACELLULAR MATRIX UNLESS
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DEF_CHICK STANDARD; PRT; 216 AA.

DEF_CHICK STANDARD; PRT; 216 AA.

C P52582; 091420;

T 01-OCT-1996 (Rel. 34, Created)

T 15-UUL-1998 (Rel. 36, Last sequence update)

T 15-DEC-1998 (Rel. 37, Last annotation update)

E VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VER PERMEABILITY FACTOR) (VPF).
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CARBOHYD
SEQUENCE
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"Anino*acid and 'CDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor.";

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                   Gallus gallus (Çhicken), and Coturnix coturnix japonica (Japanese Eukaryota; Metazoa; Chordata; Craniat Archosauria; Aves; Neognathae; Gallif
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              SPECIES=CHICKEN;
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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84.6%;
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Craniata; Vertebrata; Euteleostomi;
C≈lliformes; Phasianidae; Phasiani
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PROSITE; PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glycoprotein; Alternative splicing; Signal.
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                                                                                                                                                                                                                                                                        CHAIN
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                                                                                                                                                                                                                                                                                                                                                                INTERPRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Flamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) and VEGF
(flk-1) are expressed during vasculogenesis and vasc
differentiation in the quail embryo.";
Dev. Biol. 169:699-712(1995).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Clamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
"Overexpression of vascular endothelial growth factor in the avian
embryo induces hypervascularization and increased vascular
permeability without alterations of embryonic pattern formation.";
Dev. Biol. 171:399-414(1995).
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 87
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ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF-166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART AND LIVER. IN KINDRY GLOMERULI, BRAIN AND YOLK SAC, VEGF-166 FORM IS 5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY 1 AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.

SIMILARITY: BELONGS TO THE DOGF/VEGF FAMILY OF GROWTH FACTORS.
CGDEGLECVPVDVYNVTMEIARIKPH
                         CNDEGLESVPTEESNITMQIMRIKPH
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P15692; 2VGH.
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                                                       l Similarity
17; Conser
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96005007
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83
87
77
101
142
143
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                                                                                                                      26
216
128
130
77
86
101
142
1166
1166
210
25203
                                                                     65
                                                                     .48;
                                                                                                                            MW;
                                                                                                                                     INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIA
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
F -> L (IN ISOFORM VEGF-146).
                                                                                                                                                                                                                                         BY SIMILARITY.

VASCULAR ENDOTHELIAL OF SIMILARITY.

BY SIMILARITY.
                                                    Score 96; DB
Pred. No. 3.7e
3; Mismatches
                                                      Ψ
                                                                                                                           82E669C2F6FC6DA7 CRC64;
112
                           26
                                              DB 1,
3.7e-08;
6;
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                                                                               Length 216
                                                      Indels
                                                                                                                                                                                                                                                                     GROWTH FACTOR.
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83 سر

CGDEGLHCVPIKTANITMQILKIPPN 108 CNDEGLESVPTEESNITMQIMRIKPH 26

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Matches 15
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01-OCT-1996 (
01-OCT-1996 (
30-MAY-2000 (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _MOUSE
PLGF_MOUSE
                                                                                                                                                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X80171; CAA56453.1; -. EMBL; X96793; CAA65587.1; -. HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 **Roben M.G., Gad J.M., Stacker S.A., Wilks A.F.; "Placenta growth factor and vascular endothelial growth factor co-expressed dufing early embryonic development."; Growth Factors 15:69-80(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dipalma T., Tucci M., Russo G., Maglione D., Lago
Saccone S., delia Valle G., de Gregorio L., Drago
Viglietto G., Persico M.G.;
"The placenta growth factor gene of the mouse.";
Mamm. Genome 7:6'12(1996).
                                                                                                                                                                                                                                                                                                                                                          Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SUBUNIT: HONODIMER, DISULFIDE-LINKED (BY SIMILARITY).
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01-0CT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
PLACENTA GROWTH FACTOR PRECURSOR (PLGF).
                                                                                                                                                                                                                                                                                                                                                                                                                               PFAM; PF00341;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 98065381.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MGI:105095;
    Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                              Growth
                                                                                                                                                                                                                                                                                                                                                                                                        PS00249;
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158
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48
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                                                                                                                                                                                                                                                                                                                                                                            PDGF_2;
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125
127
73
82
82
29
30
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                                                                                                             17876 MW;
                    60.9%;
57.7%;
                                                                                                                                                                                                                                                                                                                                                          Glycoprotein;
                                                                                                                                                                                                                                          coprotein; Signal.
BY SIMILARITY.
PLACENTA GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
Score 84; DB
Pred. No. 2.26
5; Mismatches
                                                                                                      INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC...) (POTENTIAL).

N-LINKED (GLCNAC...) (POTENTIAL).

N-LINKED (GLCNAC...) (POTENTIAL).

F16128BEA0790438 CRC64;
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                       2.2e-06
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L., Dragani T.A.
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                                            1;
6
                                       Length 158
Indels
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VEGH_ORFN2
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A Lyttle D.J., Fraser K.M., Fleming S.
T "Homologs of vascular endothelial gr.
Poxvirus orf virus.";
Poxvirus of virus.";
                                                                                                                                                                                                   Query Match
Best Local Similarity 61.9
Matches 13; Conservative
                                                                                                                 _HUMAN
                                                                                                                                                                                                                                                     DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                       01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
PLACENTA GROWTH FACTOR PRECURSOR (PLGF-1/PLGF-2).
PGF OR PLGF.
                                                                                             PLGF_HUMAN
P49763;
                                                                                                                                                                                                                                                                                                                                                                                                                                            modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-OCT-1996 (Rel.
15-JUL-1999 (Rel.
                                                                                                                                                                                                                                                                                                                                         CHAIN
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            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                             Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                             PFAM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Viruses;
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                               Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGH_ORFN2
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                                                                                                                                                                      1 CNDEGLESVPTEESNITMQIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                          CNDESLECVPTEEVNVSMELL
                                                                                                                                                                                                                                                                                                                                                                                                                S67520;
P15692;
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PS50278; PDGF_2;
Growth factor; G1
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71
61
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                                                                                                        STANDARD;
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ruses, no RNA stage;
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112
114
61
70
          Chordata;
Primates;
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61
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BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
MW; 917C0F6883030C39 CRC64;
                                                                                                                                                          91
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                                                                                                                                                                                                Score 79; DB Pred. No. 1.1e 5; Mismatches
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                                                                                                                                                                                                                                                                                                                            VASCULAR ENDOTHELIAL HOMOLOG.
                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                        PRT;
            Catarrhini;
                     Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S.B., Mercer A.A., Robinson A.J.; growth factor are encoded by the
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                                                                                                        170
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. 1.1e-05;
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            Hominidae;
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EMBL; A18411; Q
EMBL; S72960; E
HSSP; P15692; I
MIM; 601121; -:
 CHAIN
DISULFID
DISULFID
                                                                       PFAM; PF00341;
PROSITE; PS002
                               Heparin-binding.
SIGNAL 1
                                                    Mitogen;
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52
83
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MEDIINE; 92021031.

Maglione D., Guerriero G., Viglietto G., De Maglione D. Guerriero G., Viglietto G., De Tisolation of a human placenta cDNA coding the vascular permeability factor.";

Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(
                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outset the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PARK J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.;
Park J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.;
Park J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.;
Park J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.;
Placenta growth factor. Potentiation of vascular endothelial growth factor biological fill vivo, and high affinity binding to Filt-1 but not to Fik-1/XDR.";
J. Biol. Chem. 269:25646-22654 (1994).

-i. FUNCTION: GROWTH FACTOR OF UNKNOWN FUNCTION. BINDS TO RECEPTOR VEGER-1 (FILT). THE LONGER FORM (PLGF-2) CAN ALSO BIND HEPARIN. 1

-i. SUBCELLULAR LOCATION: BOTH FORMS ARE SECRETED BUT THE LONGER FORM
-i. SUBCELLULAR LOCATION: BOTH FORMS ARE SECRETED BUT THE LONGER FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hauser S., Weich H.A.;
"A heparin-binding form of placenta growth factor (PIGF-2) expressed in human umbilical vein endothelial cells and in placenta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chromosome 14.";
Oncogene 8:925:931(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maglione D., Guerriero V., Viglietto G., Ferraro M.G., Apr
Maglione D., Guerriero V., Viglietto G., Ferraro M.G., Apr
Alitalo K., del Vecchio S., Lei K.-J., Chou J.Y., Persico
"Two alternative mRNAs coding for the angiogenic factor, p
growth factor (PIGF), are transcribed from a single gene c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (PLGF-1).
TISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPEARS TO REMAIN CELL ATTACHED UNLESS RELEASED BY HEPARIN.
ALTERNATIVE PRODUCTS: 2 ISOFORMS; PLGF-1 AND PLGF-2 (SHOWN HERE);
ARE PRODUCED BY ALTERNATIVE SPLICING, PLGF-1 DIFFERS FROM PLGF-2
IN LACKING A 21 RESIDUES SEGMENT IN THE C-TERMINAL SECTION WHICH
ACTS AS A CELL RETENTION SIGNAL.
TISSUE SPECIFIC TO: WHILE BOTH FORMS ARE PRESENT IN MOST PLACENTA
TISSUES, THE LONGER FORM IS SPECIFIC TO EARLY (8 WEEK) PLACENTA
AND ONLY THE SHORTER FORM IS FOUND IN THE COLON AND MAMMARY
                                                                                                                                                                                                                                                                                                                                                                                                                         PTM: N-GLYCOSYLATED.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                        Growth factor;
                                                                                                    PS00249; PDGF_1;
PS50273; PDGF_2;
                                                                                                                                         IPR000072; -
                                                                                                                                                                                                             CAA38698.1; -.
CAA01393.1; -.
AAB30462.2; -.
                                                                                                                                                                                                           CAA01393.
AAB30462.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9:259-268(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND SEQUENCE
 18
170
94
128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (PLGF-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PLGF-2).
                                                                                      Glycoprotein;
PLACENTA GROWTH
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88:9267-9271(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF 19-24.
                                                                                        Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Delli-Bovi P.,
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                                                                                        Alternative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Aprelikova
ico M.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Persico
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of
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                                                                                        splicing;
                                                                                                                                                                                                                                                                                                                                                                           a collaboration - MBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       is
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RESULT VEGS-UL ID A CO IN THE ENTER IN THE E
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Best Local S
Matches 12
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

MEDLINE; 96197355

Olofsson B., Pajusola K., Kaip
Saksela O., Orpana A., Petters
"Vascular endothelial growth f.
endothelial cells.";
                                                                                  EMBL; U48801;
EMBL; U43369;
HSSP; P15692;
MIM; 601398;
                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.

MEDLINE; 97077124.

Grimmond S., Lagercrantz J., Drinkwater C., Silins G., To Grimmond S., Lagercrantz J., Drinkwater C., Silins G., To Poliock P., Gotley D., Carson E., Rakar S., Nordenskjoeld Hayward N., Weber G.;

"Cloning and characterization of a novel human gene relat vascular endothelial growth factor.";

Genome Res. 6:124-131(1996).

-i- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS

-i- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM H
                                                                                                                                                                                                                                                                                                                                                               -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.
-!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.
-!- HIGHEST LEVELS FOUND IN HEARY, SKELETAL MUSCLE AND PANCREAS.
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                     INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGE_HUMAN STANDARD; PRT; 188 AA.
P49765;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-DCC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
VARSPLIC
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGFB OR VRF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HUMAN
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12; Conser
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                                                                                                           1VPF.
                                                                                                                            AAB06274.1;
AAA91463.1;
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                PDGF_1;
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; Pred. No. 9.7e
6; Mismatches
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INTERCHAIN (BY SIMILARITY).

INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC...) (POTENT

N-LINKED (GLCNAC...) (POTENT

MISSING (IN ISOFORM PLGF-1).

D -> N (IN REF. 1).

MM; E47639AC59C0963F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93:2576-2581(1996).
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. 9.7e-05; 6;
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, Alitalo K., Er
a novel growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene related
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           r G., Joukov
K., Eriksson
rowth factor
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HETERODIMER
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VEGB_MOUSE

VEGB_MOUSE

AC P49766;
DT 01-0CT-1996
DT 15-DEC-1998
DT 15-DEC-1998
DE VASCULAR ENL
GN VEGFB OR VRI
OS MUS MUSCULA:
GN VASCULA:
GN VASCULA:
GN VASCULA:
GN VASCULA:
GN VASCULA:
GN TISSUE-HEAR
RX MEDLINE; 96
RA SAKSela O.,
RT "VASCULA:
GN "VASCULA:
GN "VASCULA:
GN TOTASOUE-BRAI
RX MEDLINE; 96
RT TISSUE-BRAI
RX MEDLINE; 96
RT TISSUE
CC -1- SUBUNII
CC -1- SUBCELI
C
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                     NGD; NGI:106199; VEGFB.
INTERPRO; IPRO000729; -
PEAM; PP00341; PDGF:1:1
PROSITE; PS00249; PDGF:1:1
PROSITE; PS00278; PDGF:2:1
Mitogen; Growth factor; Signal
SIGNAL 21
P
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Best Local
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Olofsson B., Pajusola R
Saksela O., Orpana A.,
"Vascular endothelial g
endothelial cells.";
                                                                                                                                                                                                                                                         This SWISS-PROTentry is copyright. It is produced through a collaboratio between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bicinformatics Institute. There are no restrictions on it use by non-pricit institutions as long as its content is in no wa modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-1996 (Rei. 34, Created)
01-OCT-1996 (Rei. 34, Last sequence update)
15-DEC-1998 (Rei. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VASCULAR ENDOTHELIAL GROWTH FACTOR B PROTEIN) (VRF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Townson S., Lagercrantz J., Grimmond S., Silins G., Nordenskjoeld M., Weber G., Hayward N.K.; "Characterization of the murine VEGF-related factor gene. Biochem. Biophys. Res. Commun. 220:922-928(1996).

1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS
1- SUBUNIT: HONODIMER, DISULFIDE-LINKED. CAN ALSO FORM HWITH VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
Mitogen;
SIGNAL
CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 96183052.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQUENCE FROM
                                                                                                                                                   3L; U48800; ALBO6273.1; -3L; U43837; AAC52553.1; -3E; P15692; 2VGH.

D; MGI:106199; VEGFB.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CNDEGLESVPTEESNITMQIMRIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN. TISSUE SPECIFICITY: ABUNDANTLY EXPRESSED IN HEART, BRAIN, AND SKELETAL MUSCLE.
                                                                                                                                                                                                                                                                                                                                                                                                                                         AND SKELETAL MUSCLE.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CPDDGLECVPTGOHQVRMQILMIR
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12; Conserv
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Growth factor; S
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21261
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., Pettersson R.I
l growth factor I
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; Signal; Hep-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   U.S.A.
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VASCULAR ENDOTHELIAL GROW
F04654D5A3727194 CRC64;
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0.0015;
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Alitalo K., Eriksson
a novel growth factor
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Murinae; Mus
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                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE: 97426617.

Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
EMBL; M96848; AAA02931.1; -.
EMBL; X57948; CAA41016.1; -.
EMBL; U18997; AAA58069.1; -.
EMBL; AE000405; AAC76297.1; PIR; S18536; S18536.
                                                                                   the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                              Klein J.R., Henrich B., Plapp R.;

"Molecular cloning of the envC gene of Escherichia coli.";

Curr. Microbiol. 21:341-347(1990).

-i- FUNCTION: MAY AFFECT SPECIFIC MEMBRANE FUNCTIONS, SUCH AS SEPTUM

FORMATION DURING CELL DIVISION, AND CELL MEMBRANE PERMEABILITY.

-i- SUBCELLULAR LOCATION: ATTACHED TO THE INNER MEMBRANE BY A LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-K12 / MG1655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Klein J.R., Henrich B., Plapp R.;
"Molecular analysis and nucleotide sequence
Escherichia coli";
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01-JUL-1993 (Rel. 26,
01-NOV-1997 (Rel. 35,
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                                                                                                                                                                                                                                                                                                                                                                  Science
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Escherichia coli.
                                                                                                                                                                                                   ANCHOR (POTENTIAL).
-1- SIMILARITY: BELONGS TO THE ACRA/ACRE FAMILY.
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PROTEIN E PRECURSOR (ENVC PROTEIN).
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Pred. No. 0.
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ECOGENE; EG10266; ACRE.
INTERPRO; IPR002215; -
PEAM; PF00529; H1yD; 1.
PROSITE; PS00013; PROKAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1995 (Rel. 31
01-FEB-1995 (Rel. 31
15-JUL-1998 (Rel. 36
VACUOLAR PROTEIN 8.
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

STRAIN-S288C / AB972;
Dietrich F.S., Walligan J.T., Hennessey K.M., Allen E., Araujo Dietrich F.S., Walligan J.T., Hennessey K.M., Allen E., Cherry Okviles E., Berno A., Brennan T., Carpenter J., Chen E., Cherry Chung E., Duncan M., Guzman E., Hartzell G., Hunicke-Smith S., Chung E., Duncan M., Guzman E., Hartzell G., Hunicke-Smith S., Myser A., Komp C., Lashkari D., Lew H., Lin D., Mosedale D., Nakahara K., Namath A, kar D., Lew H., Lin D., Oh Petel F.X., Roberts D., Sehl P., Schramm S., Shogren T., Smith Taylor P., Wei Y., Yelton M., Botstein D., Davis R.W.; Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
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SEQUENCE
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                                                                                                                                      the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entitles requires a license agreement (See http://www.lsb-sib.or send an email to license@isb-sib.ch).
                                                    INTERPRO; IPRO00225; --
PFAM; PF00514; Armadillo_seg;
PROSITE; PS50176; ARM_REPEAT;
                                                                                                                                                                                                                                                                          Wang Y.X., Catlett N.L., Weisman L.S.;
Unpublished observations (XXX-1997).
-i- FUNCTION: FUNCTIONS IN BOTH VACUOLE INHERITANCE
TARGETING FROM THE CYTOPLASM TO VACUOLE.
-i- SIMILARITY: BELONGS TO THE BETA-CATENIN FAMILY.
                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restricted the European Bioinformatics Institute.
                                           Cytoskeleton
                                                                                                EMBL; U18530; ANB64490.1; SGD; S0000739; VAC8.
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Eukaryota; Fungi; Ascomycota; Saccharomycetes;
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W-ACYL DIGLYCERIDE (POTENTIAL).
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ALLSLMGKKLNWRLSSSSILST (IN REF.
SR -> T (IN REF. 2).
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sp_rodent:*
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sp_unclassified:*
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Q9UL23
Q60720
Q16889
Q9xsF3
Q9xsF5
Q9xsF5
Q9xsF5
Q9x67
Q75875
Q92xG7
Q92xG7
Q92xG6
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O9uh58 homo sapien
O9ul23 homo sapien
O60720 homo sapien
O16889 homo sapien
O9xsf4 canis famil
O9xsf4 canis famil
O9xsf5 canis famil
O9xsf5 canis famil
O78875 homo sapien
O99x39 spalax leuc
O77643 ovis aries
O99x97 rattus norv
O47570 oryotolagus
O18843 oryotolagus
O18843 oryotolagus
O18843 rattus norv
O42571 xenopus lae
O42572 xenopus lae
O42572 xenopus lae
O43872 brachydanio
O73682 brachydanio
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RESULT
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EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 174 AA; 20218 MW; AE88400CA7757644 CRC64;
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SEQUENCE
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Submitted (MAY-1998) to the EM
EMBL; AJ010438; CAA09179-1; -.
EMBL; AF062645; AAC16730-1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ted J., Jiang A., Pei D.;
"Identification and characterization vascular endothelial growth factor: V Biochim. Biophys. Acta, Gene Struct.
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Homo sapiens (Human).
Homo sapiens (Homan).
'Toria; Metazoa; Chordata;
'Toria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-1999 (TREMBLIE1. 10, Last sequence update)
01-JUN-2000 (TREMBLIE1. 14, Last annotation update)
VEGE183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH FACTOR 183).
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Eukaryota; Metazoa;
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PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
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87 CNDEGLECVPTEESNITMQIMRIKPH
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                                                                                              25; Conser
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209 7
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24422 MW;
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Primates;
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VEGF183 PROTEIN.
; F01CCEACD945D6CA CRC64;
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VEGF183.";
. Expr. 1443:400-406(1998).
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RESULT

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Matches 25
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PROSITE: PS00249; PDGF: 1.
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SEQUENCE 254
                   Query Match
Best Local
                                                                                                 Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the El
EMBL; AR133248; AAD29682.1; -
INTERPRO; IPRO00072; -
PFAM; PP00341; PDGF; 1.
PROSITE; PS00245; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
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Q16889;
Q1-NOV-1996
Q1-NOV-1998
Q1-JUN-2000
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Q9XSF3;
01-NOV-1999
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EMBL; S85224; p
EMBL; S85201; p
EMBL; S85201; p
EMBL; S85202; p
EMBL; S85222; p
EMBL; P15692; 2
INTERPRO; IPROO
                                                                                                                                                                                                                                                                                                     Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                           TISSUE-HEART;
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CNDEGLESVPTEESNITMQIMRIKPH
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1998 (TrEMBLrel. (
2000 (TrEMBLrel. 1
R ENDOTHELIAL GROV
h 92.0%;
Similarity 92.3%;
24; Conservative
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AAC63101.1;
AAC63101.1;
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Primates;
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96.2%;
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Last sequence update)
Last annotation update)
FACTOR (FRAGMENT).
Score 127; DB 6;
Pred. No. 3.3e-12;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                        Last sequence up Last annotation FACTOR 164.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 133;
Pred. No. 5.
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                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata;
; Fissipedia; Canidae;
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                                                                                                        2053500BC9085CE0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134
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.2e-13;
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                                        Length 190;
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                                                                                                                                                                                                                                                                                                         Euteleostomi;
Canis.
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Best Local S
Matches 24
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Best Local Similarity
Matches 24; Conserv
                                                                                                                                                                                                                                                                                            Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EN
EMBL; AF133250; AAD29684.1; -.
INTERPRO; IFR000072; -.
PRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 AA; 25151 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jingjing L., Roque R.S.;
Submitted (Mar. 1999) to the EMBI
EMBL; AR133249; ADAD25683.1; -.
INTERPRO; IPRO00072; -.
PRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 AA; 24400 MW; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1999 (Tremblrel. 12, 01-NOV-1999 (Tremblrel. 12, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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01-JUN-2000
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                                                                                          86
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                                                                                      1 CNDEGLESVPTEESNITMQIMRIKPH
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                     8
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1999 (TremBLrel. 12, 1
2000 (TremBLrel. 14, 1
R ENDOTHELIAL GROWTH E
                                                                                                                                                                                                    Similarity
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                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
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3; 1.
; PDGF; 1.
.. 25151 MW;
                                                                                                                                                                                                    92.0%;
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Last annotation
FACTOR 188.
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                                                                                                                                                                            Score 127; DB b; pred. No. 3.7e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 127; DB 6;
Pred. No. 3.6e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; ; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CF77AC591F5C2BBE CRC64;
                                                                                                                                                                                                                                                                                                 2269981AFBC60058 CRC64;
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Canis.
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TISSUE-BREASI;

MEDLINE; 98119755.

Claffey K.P., Shih S.-C., Mullen A., Dz
Abrams K.R., Lee S.W., Detmar M.;

Tidentification of a human vpe/vegf 3'

Timpoxia-induced mrna stability.";

AL Mol. Biol. Cell :9:469-481(1998).

DR EMBL; AF022375; AAC63143.1; -.

DR HSSP; P15692; 1VPP.

DR INTERPRO, IPRO00072; -.

DR PFAM, PF00341; PDGF; 1.

DR PFAM, PF00341; PDGF; 1.

DR PFONDOM; PD001629; -; 1.

DR PFONDOM; PD001629; -; 1.
                                                                                                                                                                                                                                                                                                                 OCC SECON MED OC
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                                                                                                                                                                                                                                                                                                      P SEQUENCE FROM N.A.

MEDLINE; 99313148.

A AVIT A, Resnick M.B., Nevo E., Joel A., Levy A.P.;

A AVIT A, Resnick Tolerance in the subterranean mole rat

T "Adaptive hypoxic tolerance in the subterranean mole rat

T ehrenbergi: the role of vascular endothelial growth fact

FEBS Lett. 45:133-140(1999).

R EMBL; AF186236; AAD56245.1; -.

R INTERPRO; IPR000072; -.

R PROSITE; PS00341; PDGF; 1.

PROSITE; PS00349; PDGF; 1.

R PROSITE; PS00249; PDGF; 1.
                                                                                                                                        Matches
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Best Local 9
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Best Local
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Q9QX39;
01-MAY-2000
01-MAY-2000
01-JUN-2000
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075875;
01-NOV-1998
01-NOV-1998
01-JUN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1998 (Tremblrel 08, 01-NOV-1998 (Tremblrel 08, 01-JUN-2000 (Tremblrel 14, VASCULAR ENDOTHELIAL GROWTH
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   86
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                                                                     1 CNDEGLESVPTEESNITMQIMRIKPH
CNDEALECYPISESNITMQIMRIKPH 111
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000 (TrEMBLrel. 13, Last sequence update)
000 (TrEMBLrel. 14, Last annotation update)
ENDOTHELIAL GROWTH FACTOR.
                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Primates;
                                                                                                                                                                         88.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89.9%;
96.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence up Last annotation FACTOR.
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Pred. No. 9.7e-12;
                                                                                                                                                                     Score 122; DB 1
Pred. No. 2e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26
                                                                                                                                                                                                                                                                                                                        2228383BC65F0BFE CRC64;
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                                                                     26
                                                                                                                                        Mismatches
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                                                                                                                                                                                                          DB 11;
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on update)
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factor.";
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RESULT 077643

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RESULT 12
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ID 097500
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                                                                                                                                                                                                                              Matches
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Best Local
1
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Best Local Similarity
Matches 23; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-COLUMBIA RAMBOULLIET;
Cheung C.Y., Brace R.A.;
"Ovine vascular endothellal growth factor: Nu expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
INTERPRO; IPR000072; -.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C53E7
                                                                                                                                                                                                                                                                                                                                  INTERPRO; IPRO00072;
PFAM; PF00341; PDGF; 1
PROSITE; PS00249; PDGI
SEQUENCE 214 AA; 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Developmental expression of vascular endothelial (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, masseter muscle.";
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077643;
01-NOV-1998
01-NOV-1998
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (DEC-1999) to the EMBL; AF215725; AAF19211.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9QXG7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-2000 (Trembirel. 13,
01-MAY-2000 (Trembirel. 13,
01-JUN-2000 (Trembirel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
Ishii H., Arakawa T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGF.
Ovis aries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                        86
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                                                                                                                                 CNDEGLESVPTEESNITMQIMRIKPH 26
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                                                                                                                                                                                                                            Similarity 84. 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Caprinae;
                           PRELIMINARY;
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                                                                                                                                                                                                                                            87.78;
84.68;
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                                                                                                                                                                                                                                                                                                                                    MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , Last sequence upo
, Last annotation of
H FACTOR-A188.
                                                                                                                                                                                                                       Score 121; DB
Pred. No. 3.2e
1; Mismatches
                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL/GenBank/DDBJ
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                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                  60FBB876F5304946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0D5E3B3E5C53E739 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 111
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.2e-11;
                             A
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.8e-11;
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on update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                           databases
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                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                                Length 214;
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Matches = 22
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Best Local S
Matches 22
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PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
NON_TER 68 68
                                                                                                                                              low-frequency-stimulated rabbit muscle.";
Am. J. Physiol. .274:0-0(1998).
EMBL; AFG22179; AAC15469.1; -.
HSSP; P15992; LYPP.
INTERPRO; IPPOACAT
                                                                                                                                                                                                                                                                                                                      018843;
018843;
01-JAN-1998
01-JAN-1998
01-JUN-2000
                                                                                             NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                      VEGF.
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Leporidae; Oryctola;
                                                                                                                           INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF;
                                                                                                                                                                                                   MEDLINE; 98191144.
Skorjanc D., Jaschinski F.,
"Sequential increases in cap
                                                                                                                                                                                                                                                                                                         01-JAN-1998 (Tremblrel. 05, 01-JAN-1998 (Tremblrel. 05, 01-JUN-2000 (Tremblrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       097500;
01-MAY-1999
01-MAY-1999
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inoue K., Kawabe Y., Kodama "Rabbit VEGF CDNA, partial.", Submitted (NOV-1998) to the EMBL; AB020216; BAA36949.1; HSSP; P15692; 1VPP
                                                                                                                                                                                                                                    STRAIN-WHITE NEW
                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mammalia; Eutheria; Lagomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGF
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 29
           1 CNDEGLESVPTEESNITMQIMRIKPH 26
                                                                                                                                                                                                                                                                                                                                                                                                                  41 CNDESLECVPTEEFNVTMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                    13
                                                                                                                                                                                                                                                                                                                                                                                                                            1 CNDEGLESVPTEESNITMQIMRIKPH
CNDESLECVPTEEFNVTMQIMRIKPH
                                          22;
                                                   Similarity
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22; Conserv
                                        87.0%;
nilarity 84.6%;
Conservative
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AA;
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(TrimBirel. 10, Last sequence update)
(TrimBirel. 14, Last annotation updat
(DOTHELIAL GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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                                                                                                                                                                                                                                  ZEALAND; TISSUE-SKELETAL MUSCLE;
                                                                                                                           PDGF; 1.
                                                                                            75
8720
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7819 MW;
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                                                                                             WW;
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Last sequence update)
Last annotation updat
FACTOR (FRAGMENT).
                                        Score 120; DE
Pred. No. 1.5e
1; Mismatches
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Pred.
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                                                                                                                                                                                                                                                                                                           nnotation update) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120; DB 6;
No. 1.3e-11
                                                                                                                                                                                                   Pette D.;
lon and mitochondrial
                                                                                                                                                                                                                                                                                                                                                               75
                                                             DB
                                                    5e-11;
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                                                                                                                                                                                                                                                                Oryctolagus
                                                             6,
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                                        Indels
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OA2571
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AC 042571
AC 042571
DT 01-JAN
DT 01-JUN
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Search completed: November Job time: 615 sec
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Best Local Similarity 84.6
Matches 22; Conservative
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Best Local Similarity
Matches 21; Conserv
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Q9QXG6;
Q9QXG6;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.
Rattus norvegious (Rat).
Rattus norvegious (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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ISANI H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;

"Developmental expression of vascular endothelial growth factor-A
(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in
masseter muscle.",

submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF215726; AAF19212.1; -.

INTERPRO; IPRO00772; -.

PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008593; AAB63679.1; -.
HSSP; P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             042571 PRELIMINARY; PRT; 148 AA. 042571; 01-JAN-1998 (TrEMBLrel. 05, Created) 01-JAN-1998 (TREMBLrel. 05, Last sequence update) 01-JUN-2000 (TREMBLrel. 14, Last annotation update) VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSTIE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
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80.8%; Pred. No. 1.6e-09;
tive 1; Mismatches 4;
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Pred. No. 9e-11;
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vascular endothelial growth factor - pig vascular endothelial growth factor - pig c;Species: Sus scrofa domestica (domestic pig) c;Species: Sus scrofa domestica (domestic pig) c;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999 c;Accession: S52130 c;Accession: S52130 Biochim. Biophys. Acta 1260, 235-238, 1995 Biochim. Biophys. Acta 1260, 235-238, 1995 Biochim. Biophys. Acta 1260, 235-238, 1995 A;Pitle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Patle: Nucleotide sequence and expression of the porcine vascular endotheli	decorin precursor hypothetical prote adenosylmethionine malate oxidoreduct hypothetical prote brain neuron cytop hypothetical prote hypothetical prote decorin precursor decorin - rabbit hypothetical prote hypothetical prote probable isoamylas probable isoamylas probable isoamylas hypothetical prote hypothetical prote hypothetical prote probable isoamylas probable isoamylas hypothetical prote hypothetical prote

A; Molecule type: mRNA, A; Residues: 1-140,'N',183-232 <HOU2> A; Residues: 1-140,'N',183-232 <HOU2> A; Recession: B4151 A; Status: Anucleic acid sequence not shown; not compared with conceptual translation A; Status: Anucleic acid sequence not shown; not compared with conceptual translation A; Residues: Aresidues: 1-141,227-232 <HOU> A; Residues: 1-141,227-232 <HOU> R; Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C. J. Biol. Chem. 266, 11947-11954, 1991 vascular endothelial growth factor 206 precursor - human
N;Alternate names: vascular permeability factor
N;Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VE
C;Species: Homo sapiens (man)
C;Date: 28-Aug-1992 *sequence revision 28-Aug-1992 *text_change 05-Nov-1999
C;Accession: A41551; C41551; B40454; B40454; B40454; A40079; A40080; JQ1463;
R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991 A;Title: The vascular endothelial growth factor family: identification of a fourth mo A;Reference number: A41551; MUID:92168017
A;Accession: A41551
A;Molecule type: mRNA.
A;Residues: 1-232 <HOUI> 밁 A;Cross-references: GB:S85192; NID:g246155; A;Accession: C41551 A;Status: nucleic acid sequence not shown Š Query Match
Best Local Similarity
Matches 12; Conserv 86 CNDEGLECVPTEE 98 1 CNDEGLESVPTEE 13 Conservative 93.0%; Score 66; Pred. No. Mismatches 0 PID:g246156 DB 2; 0.00022; 1; Indels Length 190; 0; Gaps 0:

Silva, M.; Gospodarowicz, D.; Fiddes, J.C.;

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A; Molecule type: DNA
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A; Residues: 1-141,227-232 <TI3>
A; Cross references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397
R; Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, Science 246, 1309-1312, 1989
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Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor
A;Reference number: A40080; MUID:90069608
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A; Molecule type: mR
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A;Residues: 1-140,'N',183-232 <WEI>
A;Cross-references: EMBL.X62568; NID:g37658;
A;Experimental source: AIDS-Kaposi's sarcoma
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A;Residues: 1-140,'N',183-232 <LEU>
A;Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
R;Weindel, K.; Marme, D.; Weich, H.A.
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A;Accession: A40079
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                                                                                                                                                                                             ;Description: promotes fluid and protein leakage from blood vessels; Reywords: alternative splicing; angiogenesis; dimer; disulfide bond; ext; Reywords: ascular endothelial growth factor 206 precursor *status; 1-232/product: vascular endothelial growth factor 189 precursor; 1-165,183-232/product: vascular endothelial growth factor 121 precursor; 1-141,227-232/product: vascular endothelial growth factor 121 precursor; 1-16/Domain: signal sequence *status predicted <SIG>
1-101/Binding site: carbohydrate (Asn) (covalent) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Experimental source: AIDS-Kaposi's sarcoma cell (Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Biol. Chem. 264, 20017-20024, 1989 (Fittle: Human vascular permeability factor. Isolation from Reference number: A34492; MUID:90062112 (Accession: A34492)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Molecule type: protein Residues: 27-36;43-49,'R';72-76,'Q',78-81;59-71 <CONSCOMMENT: The most common of several alternatively spl
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Connolly, D.
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A; Cross-references:
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C; Species: Orf virus
C; Date: 07-Apr-1994 #sequence_re
C; Date: 07-Apr-1994 #sequence_re
C; Accession: B49530
R; Lyttle, D.J.; Fraser, K.M.; Fl
J. Virol. 68, 84-92, 1994
A; Title: Homologs of Vascular er
A; Title: Homologs of Vascular er
                                                                                       R; Redmer, D.A.; Dai, Y.; Li, submitted to the EMBL Data L:
                                                                                                                              ovine vascular endothelial growth factor - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries
C;Date: 13-7an-1996 #sequence_revision 01-Mar-1996
C;Accession: S57956
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A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-133 <LYT>
A;Cross-references: GB:S67520; NID:9456897; PIDN:AAB29220.1;
A;Note: sequence inconsistent with nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:141420,
A; Molecule type: mRNA'
A; Residues: 1-146 < RED>
                                                     A; Reference number: A; Accession: S57956
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A; Accession: A33787
A; Status: preliminary
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Biochem. Biophys. Res. Commun.
A;Title: Vascular endothelial g
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A; Contents: NZ2
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Residues: 1-120 <TIS>
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MUID:90121225
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                                                                                             Jones, S.C.;
ry, July 1995
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Pred. No.
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EMBL: x89506; NID: g899350; PIDN: CAA61677.1; PID: g899351

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vascular endothelial growth factor-1 precursor - mouse
C.Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G; Albrecht, U; Sterrer, S; Risau, W.
Development 114, 521-532, 1992
A;Fitle: Expression of vascular endothelial growth factor during embryonic angineration endothelial growth factor endothelial growth factor during embryonic angineration endothelial growth factor during embryonic angineration endothelial growth factor during embryonic angineration endothelial growth factor during endothelial growth factor during endothelial growth factor during e
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C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C;Accession: B40080; B33787; A33255
R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Science 246, 1306-1309, 1989
A;Title: Vascular endothelial growth factor is a secreted angiogenic mitoger A;Reference number: A40080; MUID:90069608
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A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
A;Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor speci.
A;Reference number: A33255; MUID:89286596
A;Accession: A33255
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A; Residues: 1-190 <LEU>
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A; Cunu, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K. Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A; Title: Amino acid and cDNA sequences of a vascular endothelial A; Reference number: A35987; MUID:90207249
A; Accession: A35987
A; Status.
                                                                                                                                                                                                                                                                                         A, Title: Expression of vascular endothelial A; Reference number: A44881; MUID:92274860 A; Molecular endothelial A; Nolecular endothelial A; Nolecular endothelial A; Nolecular endothelial A; Nolecular endothelial endothelia endothe
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A; Residues: 1-116, 'ER', '119-190 <CLA>
A; Residues: 1-116, 'ER', '119-190 <CLA>
A; Cross: references: GB: M95200; NID: g202350; PIDN: AAA40547.1;
A; Crose: sequence extracted from NCBI backbone (NCBIN: 110665,
A; Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.;
Growth Factors 4, 53-59, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      glioma-derived vascular endothelial cell growth factor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change
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                                                                                                                                                                                                                                                                                                                                                                                                                       N;Contains: vascular endothelial growth factor-2; vascular perme C;Species: Mus musculus (house mouse) C;Date: 03-Feb-1994.#sequence_revision 03-Feb-1994 #text_change C;Accession: A44881; C44881; A60932; S52136 C;Accession: A44881; C44881; Sterrer, S:; Risau, W. Development 114, 521-532, 1992
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A; Molecule type: mRNA
A; Residues: 1-140, 209-214 <BR2>
A; Cross-references: GB:S38100;
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A; Accession: C44881
                                                                                                                                                                   A;Cross-references:'GB:S37052; NID:g249856; PIDN:AAB22252.1;
A;Experimental source: embryo
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A; Residues: 1-214 < BRE>
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A; Residues: 1-190 <CON>
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, NCBIP:110675)
; Folkman, J.
                                                                                                                                            NCBIP: 104678)
                                                                                                                                                                                                           PID:g249857
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GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861

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A; Reference number: A60932; MUID:91079755

A; Accession: A60932

A; Molecule type: protein
A; Residues: 27-33 < CCLA>
R; Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa,
Biochim. Biophys. Acta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms of A; Reference number: $52136; MUID:95101726
A; Accession: $52136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R:Flamme, I.; Breier, G.; Risau, W. Dev. Biol. 169, 699-712, 1995 A;Title: Vascular endothelial growth factor A;Reference number: I51295; MUID:95301109 A;Accession: I51295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Note: sequence extracted from NCBI backbone (NCBIN:107624, R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; J. Exp. Med. 172, 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived polype
                                                                                                                                                vascular endothelial growth factor-related factor 167 precursor - mouse N;Alternate names: VRF 167 protein C;Species: Mus musculus (house mouse) C;Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Species: Phasianic
C; Date: 13-Sep-1996
C; Accession: I51295
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein A; Residues: 27-46 <SUG>
A; Reference number: JC4
A; Accession: JC4680
A; Molecule type: mRNA
A; Residues: 1-188 <TOW>
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A; Residues: 1-128 <FLA>
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Matches 8
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76.9%;
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MUID:91079755
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Pred.
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                                                                                                             Silins, G.; Nordenskjoeld,
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Familletti, P
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                                                                                                                 G.;
                                                                    R:Ng, W.V.; Ciufo, S.A.; Smith, T.M.; Bumgarne Genome Res. 8, 1131-1141, 1998
A;Title: Snapshot of a large dynamic replicon A; Reference number: Z16408; MUID:99063795
A; Accession: T08315
A; Status: translated from GB/EMBL/DDBJ
A; Molecule type: DNA;
A; Residues: 1-251 <DAS;
A; Residues: 1-251 <DAS;
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                                     A; Experimental
                                                          A; Cross-references:
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 HALOSP: H1185
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source:

strain NRC-

EMBL:AF016485; NID:g2822278; PID:g2822376; HALOSP:H1185

in a halophilic Archaeon: megaplasmid

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hypothetical protein H1185 [accepted] - Halobacterium sp. (strain NRC-1) pl. C;Species: Halobacterium sp. A;Variety: strain NRC-1 C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 31-Jan-2000 C;Accession: T08315
                                                                                                                                                                                                                                                                                                                             A; May POUR POUR CO. (A) Provide: growth factor

F;1-21/Domain: signal sequence #status predicted <SIG
F:1-22-207/Product: vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-207 <TOW>
A; Cross-references: GB:U43836; NID:g1703480;
C; Comment: This factor is a mitogen, that is
lar endothelial growth factors 167 and 186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Townson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjoeld, Biochem. Biophys. Res. Commun. 220, 922-928, 1996
A;Title: Characterization of the murine VEGF-related factor gene.
A;Reference number: 7C4679; MUID:96183052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:U43837; NID:g1314335; PIDN:AAC52553.1; PID:g1314336 C;Comment: This factor is a mitogen, that is selective for endothelial cells, ar endothelial growth factors 167 and VEGF 186. C;Genetics:
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A;Introns: 1372
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-188/Product: vascular endothelial growth factor-related factor
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Best Local S
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Best Local 9
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72.78;
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Pred. No. 1.2;
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Bumgarner, R.E.;
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1.3;
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Faust, J.;
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A;Experimental source: aorta
R;Roughley, P.J.; White, R.J.
Biochem. J. 262, 823-827, 1989
A;Title: Dermatan sulphate proteoglycans of human articular cartilage. The A;Reference number: S05639; MUID:90073579
A;Accession: S05639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: mRNA
A;Residues: 361-368 <705>
A;Cross-references: EMBL:Ull686; NID:g607862; PIDN:AAC50117.1; PID:g619663
A;Cross-references: EMBL:Ull686; NID:g607862; PIDN:AAC50117.1; PID:g619663
R;Fisher, L.W.; Termine, J.D.; Young, M.F.
J. Blol. Chem. 264, 4571-4576, 1989
A;Title: Deduced protein sequence of bone small proteoglycan I (Biglycan) shows homology A;Reference number: A32458; MUID:89174714
A;Reference number: A32458; MUID:89174714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross references: GB:M65151; NID:g179428; GB:M65152; NID:g179429; GB:M65153; NID:g179429; A;Note: the translated sequence in GenBank entry HUMBGN3, release 113.0, (PIDN:AAA52287, d not the DNA) and 26 residues inserted after residue 80 (apparently from a misread spli R;Just, W; Rau, W; Muller, R.; Geerkens, C.; Vogel, W. Hum. Mol. Genet. 3, 2268, 1994
A;Title: Dinucleotide repeat polymorphism at the human biglycan (BGN) locus.
A;Reference number: 138706, MUID:95187185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Homo sapiens (man)
C;Date: 21-Apr-1992 *sequence_revision 26-May-1995 *text_change 28-Jan-2000
C;Accession: A40757; 138706; A32458; S14349; S05639; A28457
C;Accession: A40757; 138706; A32458; S14349; S05639; A28457
R;Fisher, L.W.; Heegaard, A.M.; Vetter, U.; Vogel, W.; Just, W.; Termine, J.D.; Young, J. Biol. Chem. 266, 14371-14377, 1991
A;Tile: Human biglycan gene. Putative promoter, intron-exon junctions, and chromosomal A;Reference number: A40757; MUID:91317791
A;Accession: A40757
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Best Local Similarity
~**hes 7; Conserv
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                                                                                                      A;Molecule type: protein
A;Residues: 38-41/x',43-46,'x',48-57 <ROU>
A;Residues: 38-41/x',43-46,'x',48-57 <ROU>
R;Fisher, L.W.; Hawkins, G.R.; Tuross, N.; Termine, J.D.
J. Biol. Chem. 262, 9702-9708, 1987
A;Title: Purification and partial characterization of small proteoglycans I and A;Reference number: A92656; MUID:87250639
A;Accession: A28457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 1-38,'NV',141-152,'DV',165-368 <FIS2>
A;Residues: 1-38,'NV',141-152,'DV',165-368 <FIS2>
A;Cross-references: GB:J04599; NID:g184339
A;Cross-references: GB:J04599; NID:g184339
A;Cross-references: GB:J04599; NID:g184339
A;Cross-references: GB:J04599; NID:g184339
A;Note: parts of this sequence, including the amino end of the mature protein, were determented by the content of the mature protein, were determented the translated sequence in GenBank entry HUMHPGI, release 113.0, (PIDN:AAA36009.
B;Note: parts of this sequence, C.; Greiling, H.
Biochem. J. 274, 415-420, 1931
B;Ochem. J. 274, 415-420, 1931
A;Title: Purification and N-terminal amino acid sequence of a chondroitin sulphate/derma A;Reference number: S14349; MUID:91174749
A;Accession: S14349
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                           A; Molecule type: protein
A; Residues: 38-41, 'X', 43-62, 'X', 64-66 <FIS3
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A; Residues: 1-368 <FIST>
Experimental source:
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2; Mismatches
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Search completed: Job time: 184 sec

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F;57-81/Domain: proteoglycan amino-terminal homology <PAH>
F;91-114/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR1>
F;115-138/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR2>
F;115-138/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR3>
F;139-159/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR3>
F;160-183/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR4>
F;109-229/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR5>
F;209-229/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR6>
F;230-253/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR8>
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F;278-300/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR9>
F;301-315/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR9>
F;316-368/Domain: proteoglycan carboxyl-terminal homology <PCH>
F;316-368/D
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A; Molecule type: DNA.
A; Residues: 1-464 <BEV>
A; Cross-references: EMBL: AL163002
A; Cross-references: cultivar Columbia;
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C;Superfamily: decorin; leucine-rich alpha-2-glycoprotein repeat homology; px
C;Keywords: chondroitin sulfate proteoglycan; dermatan sulfate; duplication;
F;1-16/Domain: sigual sequence #status predicted <SIG>
F;17-37/Domain: propeptide #status predicted <PRO>
F;38-368/Product: biglycan #status predicted <MAT>
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R;Bevan, M.; Terryn, N.; Ardiles, W.; Buysshaert, C.; Dasseville, ewes, H.W.; Rudd, S.; Lemcke, K.; Mayer, K.F.X. submitted to the Protein Sequence Database, April 2000
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A; Introns: 24/3; 176/3; 233/1; 385/1; 415/3
A; Note: F15A17.210
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A;Cross-references: GDB:119727; OMIM:301870
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NSG1_RAT
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              EMBL; X81380; CAA57143.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00243; PDGF_1; 1.
PROSITE; PS00243; PDGF_2; 1.
Mitogen; Growth factor; Glycop: SIGNAL 1 26 PV.
CHAIN 27 190 V.
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DISULFID 86 129 B
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	CCAC_HUMAN	YGN3_YEAST	PIGR_RABIT	SIX5_MOUSE	CATA_RAT	GLG2_SOLTU	UXAC_BACST	PGS2_MOUSE	RSP4_CHLVR	CCAC_RAT	CCAC_MOUSE	PGS2_RABIT
	Q13936 homo sapien	P53125 saccharomyc					Q9zfl8 bacillus st					

ALIGNMENTS

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). BIOCHIM. Biophys. Acta 1260:235-238(1995). -!- FUNCTION: GROWTH FACTOR ACTIVE IN ANCIGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY). -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY). -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY 01-FEB-1996 (Rel. 33, Created) 01-FEB-1996 (Rel. 33, Last sequence update) 01-OCT-1996 (Rel. 34, Last annotation update) VASCULAR ENDOTHCLIAL GROWN FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF). "Nucleotide sequence and expression endothelial growth factor."; Eukaryota; Metazoa; Mammalia; Eutheria; Sus scrofa (Pig). Sharma H.S., Tang Z.H., Gho B.C.H., SEQUENCE FROM N.A. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS. SIMILARITY). 95143234. STANDARD, Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus. PRT; Verdouw P.D. of the porci 190 ₽ porcine , AND ENDOTHELIAL AND VASCULAR vascular õ

Glycoprotein; Signal.

MW;

VASCULAR ENDOTHELIAL GROWTH FACTOR.
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MEDLINE; 91268072.

A Tischer E., Mitchell R., Hartman T., Silva ...

A Fiddes J.C., Abraham J.A.;

A Fiddes J.C., Abraham J.A.;

The human gene for vascular endothelial growth factor. Mulprotein forms are encoded through alternative exon splicing protein. Chem. 266:11947-11954(1991).
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MEDLINE: 90069608.
Leung D.W., Cachianes G
"Vascular endothelial 9
                            MEDLINE;
Muller Y.
                                                                       Fiebich B.L., Jaeger B., Schoellmann C.,
Kochs G., Marme D., Hug H., Weich H.A.;
"Synthesis and assembly of functionally
endothelial growth factor homodimers in
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15-JUL-1999 (Rel. 38, Last annotation update)
PASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                           Weindel K., Marme D., Weich H.A.; "AIDS-associated Kaposi's sarcoma endothelial growth factor.";
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MEDLINE; 93145946.
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Connolly D.T.;
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                  de Vos
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                                             K-RAY CRYSTALLOGRAPHY (2.5
                                                                                                                                                         "Human
                                                                                                                                                                                                                                                                                                                                                                                        "Vascular permeability factor,
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       "Vascular endothelial
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                  A.M.,
                                                                                                                                               ly D.T., Olander J.V., Heuvelman D., Nelson R., N., Haymore B.L., Leingrüber R., Feder J.; vascular permeability factor. Isolation from U9 1. Chem. 264:20017-20024(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity
12; Conserv
                                                                  Biochem.
                       97352774.
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                                                                                                                                                                                                                   Biophys.
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s (Human).

Metazoa; Chordata; C

Metazoa; Primates; (
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                                                                  211:19-26(1993).
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Pred. No. 4.8e-05;
        factor:
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        crystal structure and
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a secreted angiogenic
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Structure 6:637:648(1998).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN
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Starovasnik M.A.;
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Biochemistry
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ALTERNATIVE SPLICING C
VEGF-189 AND VEGF-215)
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       X62568;

A34492;

A40079;

A40080;

A40080;

A40454;

E40454;

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C40454;

C40454;

C40454;
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PERMEABILITY
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M63973; AAA36804.1;
M63974; AAA36804.1;
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M63976; AAA36804.1;
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M27281; AAA36807.1;
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"1H, 13C, and 15N backbone assignment and secondary structure of receptor-binding domain of vascular endothelial growth factor."; Protein Sci. 6:2250-2260(1997).
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. Acad. Sci. U.S.A. 94:7192-7197(1997).
                                                                                             TOR ACTIVE IN ANGIOGENESIS, ENDOTHELIAL PROLIFERATION
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MEDLINE; 94076465.

Lyttle D.J., Fraser K.M., F
"Homologs of vascular endot
poxvirus orf virus.";
J. Virol. 68:84-92(1994).
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                                                                                                                                                                                                                                               Orf virus (strain NZ2) (OV Viruses; dsDNA viruses, no
                                                                            modified and this statement
                                                                                                                                   -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                      Parapoxvirus.
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PFAM; PF00341; PDGF;
PROSITE; PS00249; PD
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NDOTHELIAL GROWTH FAC
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VEGF-165).
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                                                                                                                                                                                                                                                                                                                     Redmer D.A., Dai Y., Li J., Charnock-Jones D. Reynolds L.P., Moor R.M.; "Characterization and expression of vascular factor (VEGF) in the ovine corpus luteum."; J. Reprod. Fertil. 108:157-165(1996).
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01-OCT-1996 (Rel. 34, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
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Mammalia; Eutheria;
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                                                                                    INTERPRO
                                                                                                                                                                                                                                                                                                                                                                                                                            Bovidae; Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71 CNDESLECVPTEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CNDEGLESVPTEE
                                                                                                                                                                                                                                               SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR, LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN
                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                          FUNCTION: GROWTH FACTOR
                                                                                                                                                                                                                                                                                   CELL GROWTH. INDUCES PERMEABILITY.
                                                                      X89506; CAA61677.1;

P15692; IVPF.

RPRO; IPRO00072; -

PF00341; PDGF; 1:
                                                                                                                                                                                                                                    SIMILARITY).
                                                                     PE00341;
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11; Conser
PS00249; PDGF 1; 1.

PS50279; PDGF_2; 1.

PS50279; PDGF_2; 1.

Growth factor; Glycoprotein; Signal.

Growth factor; Glycoprotein; Signal.

BY SIMILARITY.

7 146 VASCULAR ENDOTHELIAL

51 93 BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT
917C0F6883030C39 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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AND VASCULAR
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Best Local
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PROSITE; PS50278; PDGF_2; 1.
Mitogen; Growth factor; Glycop
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DISULFID 56 101 B
DISULFID 60 103 B
DISULFID 50 50 I
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                                                                             CARBOHYD
SEQUENCE
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY
                                                                                                                                                                                                  EMBL; M84230; AAA37057.1;
HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                  modified and this statement
                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. The use by non-profit institutions as long
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FACTOR) (VPF).
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                                                                                                                                                                                          PFAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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  1 CNDEGLESVPTEE
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                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION:
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                                                                                                                                                                                        PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                        THE EXTRACELLULAR MATRIX
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INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GICNAC. . .) (POTEN
W; 4E792CB557F91760 CRC64;
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ACTIVE IN ANGIOGENESIS, AND ENDOTHER
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                        Score 60; DB Pred. No. 0.00 0; Mismatches
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT);
9EB86A81A9D5DCA4 CRC64;
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Pred. No. 0.00046;
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Hystricognathi; Caviidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
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                                           Length 164;
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dae; Cavia.
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RESULT 6
VEGF_BOVIN
ID VEGF_BOVIN
AC P15691;
DT 01-APR-1990
  EMBL; M32976; AĀA30502.1; -
EMBL; M31836; AĀA30804.1; -
EMBL; M33780; AĀA30805.1; -
PIR; A33255; A35255.
PIR; A33787; A35787.
PIR; B40080; B40080.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Petrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Ferrara N., Henzel W.J.;

Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

factor specific for vascular endothelial cells.";

Blochem. Blophys. Res. Commun. 161:851-858(1989).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIA CELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                    PROSITE;
PROSITE;
Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tischer E., Gospodarowicz D., Mitchell R., Silva M. Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member c derived growth factor gene family.";
Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
             DISULFID DISULFID
                                         SIGNAL
CHAIN
                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. There are no restrictions on its monoperative in the statement is no as its content is in no way most five by and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-APR-1990 (Rel. 14, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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MEDLINE; 89286596.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Science 246:1306-1309(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A., AND SEQUENCE OF 27-47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovidae; Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bos taurus (Bovine)
                                                                                                                INTERPRO; IPR000072;
PFAM; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Leung D.W., Cachianes G., Ku
"Vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria;
                                                                                                                                             issp;
                                                                                                                                                                                                                                                                                                                                                                                                                                 PERMEABILITÝ.
SUBUNIT: HOMODIMER,
                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                                                                                                                                                                    TO THE EXTRACELLULAR MATRIX UNLESS RELEASED
                                                                                                                                             P15692; 2VGH
                                                                    PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Growth factor; Glycoprotein; Alternative splicing; Signal
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(Rel. 14,
(Rel. 34,
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ON: SECRETED BUT REMAINS ASSOCIATED TO
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BY SIMILARITY.
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                                           GROWTH FACTOR
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VARSPLIC
DISULFID
DISULFID
DISULFID
DISULFID
                                                                               PROSITE;
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"Amino acid and cDNA sequences of a vascular endothelial
that is homologous to platelet-derived growth factor.";

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND E
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-CCT-1996 (Rel. 34, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
                                                                                                                                                                                      modified and this statement is not removed.
entitles requires a license agreement 'See'
                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no resti
                                                          SIGNAL
                                                                                                      PFAM; PF00341; PDGF;
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                                                                                                                                                                                                              use
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Eukaryota; Metazoa;
                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A., AND SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A F.C.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PERMEABILITY FACTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                    INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGF_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86
                                                                                                                                                                                                                                                                    TISSUE SPECIFICITY: EXPRESSED IN THE PITUITARY, IN BRAIN, IN PARTICULARLY IN SUPRAOPTIC AND PARAVESTRICULAR NUCLEI AND THE CHOROID PLEXUS. ALSO FOUND ABSUNDANTLY IN THE CORPUS LUTEUM OF THE OVARY AND IN KIDNEY GLOMERULI.

SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                        PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT RE
TO THE EXTRACELLULAR MATRIX UNLESS RE
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A35987; A35987.
                                                                                                                                                                                                                                                                                                                              SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           G., Bayne M.L.,
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                                                                                                                             P15692;
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11; Conserv
                                                                                                                                                                         s requires a license agreement (S an email to license@isb-sib.ch).
                                                                     PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Growth factor; Glyc
                                                                                                                                                                                                              non-profit
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a; Chordata; Craniata; Vertebrata;

a: Rodentia; Sciurognathi; Muridae;
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                                                                    Glycoprotein;
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
MISSING (IN ISOFORM BETA).
R -> K (IN ISOFORM BETA).
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INTERCHAIN (BY SIMILARITY).
            ASCULAR ENDOTHELIAL OY SIMILARITY.
Y SIMILARITY.
Y SIMILARITY.
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D BY HEPARIN (BY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sullivan K.A.,
                                              GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                       AND ENDOTHELIAL AND VASCULAR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
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                                                                                                                                                                                                                     restrictions
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MBL outstation -
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Q00731;
01-APR-1993
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CARBOHYD
SEQUENCE
                                      This SWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOUSE
                                                                                                                                                                                                                                                                                                                                                             Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A., "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse, Mouse, Metazoa,
                                                                                                                                                                                                                                                              ++
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 1-3' FROM N.A. MEDLINE; 962164'98.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Vascular endothelial growth factor. differentiation and activated second
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Breier G., Albrecht U., Sterrer S., Risau W.;
"Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation.";
Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-1996 (Rel. 34, VASCULAR ENDOTHELIAL
                                                                                                                                                                                                                                                                                                                                                 regulatory sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (VEGF-1).
MEDLINE; 92355593.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PERMEABILITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biol. Chem.
                                                                            ALTERNATIVE PRODUCTS: THREE FORMS (VEGF-1, VEGF-2 AND VEGF-3) ARE PRODUCED AS, A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. TH LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.

TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROLD PLEXUS, PARAVENTRICULAR NEUTROEDITHELIUM, PLACENTA AND KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADDENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROLD PLEXUS IN ADULTS.
SIMILARITY: BELONGS TO THE POGF/VEGF FAMILY OF GROWTH FACTORS.
         s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBI outstation. European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                             PERMEABILITY.
SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR, LOCATION: VEGF-1 AND VEGF
                                                                                                                                                                                                                                                                                                 SIGNATURE 271:3877-3883(1996).

FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                               VEGF-3 REMAINS CELL-SURFACE ASSOCIATED
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Metazoa; Chordata; Choria; Rodentia;
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(Rel. 34, Last sequence update)
(Rel. 34, Last annotation update)
DOTHELIAL GROWTH FACTOR PRECURSOR
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Pred. No. 0.0052;
0; Mismatches
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Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                                                             VEGF-2 ARE
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Matches 10
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VEGF_CHICK
STANDARD;
PRT;
216 AA.
PS2582; 091420;
01-OCT-1996 (Rel. 34, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
PERMEABILITY FACTOR) (VPF).
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DISULFID
CARBOHYD
VARSPLIC
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CONFLICT
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Coturnix coturnix japonica (Japanese quail).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
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                                                                                                                                                                        SEQUENCE FROM N.A.
SPECIES-C.C.JAPONICA; TISSUE-EMBRYO.
MEDLINE; 96005007.
                                                                                                                                                                                                                                                 Submitted
                                                                                                                                                                                                                                                                                   SEQUENCE FROM N. SPECIES-CHICKEN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mitogen; Growth SIGNAL 1
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           MEDLINE;
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                                                                                                                                                                                                                                                                  Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERPRO; IPR000072;
           SEQUENCE OF 60-187 FR SPECIES=C.C.JAPONICA; MEDLINE; 95301109.
                                                                                embryo induces hypervascularization permeability without alterations of Dev. Biol. 171:399-414(1995).
                                                                                                                                 Flamme I., von Reutern M., Drexler H.C., Overexpression of vascular endothelial
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license@isb-sib.ch).
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BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (PROBABLE).
K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
GE -> ER (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                 H.C., Syed-Ali S., Risau W.;
lial growth factor in the avian
and increased vascular
embryonic pattern formation."%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
0.0059;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (VEGF) (VASCULAR
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                                                                                                                                                                                                                                                   databases
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                                                                                                                                                                                                               RESULT 10
VEGB_HUMAN
                OCCUPED DO AC
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CARBOHYD
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VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mitogen;
SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -
                                                                                      FACTOR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                        87
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VEGB_HUMAN STANDARD P49765; 01-OCT-1996 (Rel. 34, C 01-OCT-1996 (Rel. 434, L 15-DEC-1998 (Rel. 37, L VASCULAR ENDOTHELIAL GF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vascular endothelial growth factor (VEGF) and VEGE (fik-1) are expressed during vasculogenesis and vas differentiation in the quail embryo.";

Dev. Biol. 169:699-712(1995).

-I- FUNCTION: GINOWITH FACTOR ACTIVE IN ANGIOGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION OF PERMEABILITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AB011078; BAA24925.1;
EMBL; $79680; AAB35371.1; -.
HSSP; P15692; 2VGH.
INTERPRO; IPRO00072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send an email to license@isb-sib.ch).
                            Homo sapiens
                                          VEGFB OR VRF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PFAM; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART LIVER. IN KINNEY GLOMERULL, BRAIN AND YOLK SAC, VEGF-166 FORM 5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190 FORM IS DETECTABLE ONLY FROM DAY 2.
SIMILARITY:: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS
                                                                                                                                                                                                                                      CNDEGLESVPTE
                                                                                                                                                                                                                  CGDEGLECVPVD
                                                                                                                                                                                                                                                                                                                                                                       Similarity 66. 8; Conservative
Eutheria;
                                                                                                                                                                                                                                                                                                                                               167.
216
                            (Human)
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                                                                                                                                             STANDARD;
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Chordata;
Primates;
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                                                                                                                                                                                                                                                                                         66.2%;
66.7%;
                                                                      , Last sequence update)
, Last annotation update)
GROWTH FACTOR B PRECURSOR
                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycoprotein; Alternative splicing; Signal.
BY SIMILARITY.
VASCULAR ENDOTHELIAL GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
K -> N (IN ISOFORM VEGF-166).
MISSING (IN ISOFORM VEGF-146).
MISSING (IN ISOFORM VEGF-146).
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                                                                                                                                                                                                                                                                            Score 47; DB
Pred. No. 0.18
1; Mismatches
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Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                  82E669C2F6FC6DA7
                                                                                                                                               188
                                                                                                                                                                                                                                                                                     DB 1
).18;
 Hominidae;
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                                                                                                                                                                                                                                                                                                       Length 216;
                                                                        (VEGF-B)
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                Euteleostomi;
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                                                                        (VEGF
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VEGB_MOUSE
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DE VASCUL
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Best Local S
Matches 8
                                                                                                                WOUSE STANDARD,
P49766;
P49766;
O1-OCT-1996 (Rel. 34, Created)
O1-OCT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B)
VASCULAR ENDOTHELIAL GROWTH FACTOR PROTEIN) (VRF).
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SEQUENCE FROM N.A.
WEDLINE; 96197355.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hayward N., Weber v.;
"Cloning and characterization of a novel human gene vascular endothelial growth factor.";
Genome Res. 6:124-131(1996).
-i- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. I
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or send a
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1. Mitogen; Growth factor; Signal; SIGNAL 1 21 PO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Grimmond S., Lagercrantz Pollock P., Gotley D., Ca Hayward N., Weber G.;
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Saksela O., Orpana A., Pettersson
"Vascular endothelial growth facto
endothelial cells.";
Proc. Natl. Acad. Sci. U.S.A. 93:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; U48801; AAB06274.1; -.
EMBL; U43369; AAA91463.1; -.
HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SUBUNIT: HOMODIMER, WITH VEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE; 97077124.
                          SEQUENCE FROM
                                                                                                   Eukaryota; Metazoa;
     TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MIM; 601398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN. TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER. HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       | |:||| |||
CPDDGLECVPT 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNDEGLESVPT 11
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8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                           Eutheria;
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nilarity 72.7%;
Conservative
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21261
                                                                         Chordata;
Rodentia;
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arson E., Rakar S.,
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ttersson R.F., Alitalo K., Eriksson
wth factor B, a novel growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 45; DB Pred. No. 0.37

1; Mismatches
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                                                                           Craniata; Ver
Sciurognathi;
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0.37;
                                                                           Vertebrata; :
thi; Muridae;
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Nordenskjoeld M., 1
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MBL outstation -
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Best Local :
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P21810; P13
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Olofsson B., Pajus
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                                                                                                     TISSUE-BONE
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INTERPRO; IPRO00072; -.

PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF_1; 1.

PROSITE; PS50278; PDGF_2; 1.

Mitogen; Growth factor; Signal; Heparin-binding.

I SIGNAL 1' 21 POTENTIAL.

T CHAIN 22; 188 VASCULAR ENDOTHELIAL

O SEQUENCE 188 AA; 21442 MW; D52A055FB995E9CA CF
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"Vascular endothelial gr
endothelial cells.";
Proc.-Natl. Acad. Sci. U
                                                                                                                                                               BGN.
Homo sapiens (Human).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Eukaryota; Metazoa; Primates;
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Nordenskjoeld M., Weber G., Hayward N.K.;
"Characterization of the murine VEGF-related factor gene.";
"Characterization of the murine VEGF-2018(1996).
Biochem. Biophys. Res. Commun. 220:92x-928(1996).
-i- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.
-i- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER
                                                                                                                                                                                                                                                                   P21810; p13247;
01-JAN-1990 (Rel. 13, Created)
01-JAPR-1993 (Rel. 25, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
BONE/CARTILAGE PROTEOGLYCAN I PRECURSOR (BIGLYCAN)
MEDIINE: 89174714.

Fisher L.W., Termine J.D., Young M.F.;

The True of bone small proteoglycan I (be shows homology with proteoglycan II (decorin) and several
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; U48800; AAB06273.1;
EMBL; U43837; AAC52553.1;
HSSP; P15692; 2VGH.
MGD; MGI:106199; VEGFB.
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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., Pettersson R.I
l growth factor I
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72.7%;
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VASCULAR ENDOTHELIAL GROW

; D52A055FB995E9CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 45; DB 1;
Pred. No. 0.37;
                                                                                                                                                                       Craniata; Vertebrata; Catarrhini; Hominidae
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                                                                                                                                                                            Hominidae;
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                       (biglycan)
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EMBL; J04599; AAA36009.1; EMBL; M65153; AAA52287.1; EMBL; M65152; AAA52287.1; EMBL; A28457; A28457. PIR; A28458; A32458. PIR; A40757; A40757.
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REPEAT
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PIR;
MIM;
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J. Biol. Chem. 262:9702-9708(1987).

-i- TISSUE SPECIFICITY: FOUND IN THE EXTRACELLULAR MATRICES OF SEVE CONNECTIVE TISSUES, SPECIALLY IN ARTICULAR CARTILAGES.
-i- PIM: THE TWO GLYCOSAMINOGLYCAN CHAINS ATTACHED TO BIGLYCAN CAN EITHER CHONDROITIN SULFATE OR DERMATAN SULFATE.
-i- SIMILARITY: BELONGS TO THE SMALL INTERSTITIAL PROTEOGLYCANS
                  REPEAT
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INTERPRO; IPR001611; -.
PFAM; PF00560; LRR; 9.
PFAM; PF01462; LRRNT; 1.
                                                                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are r
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MEDLINE; 87250639.
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         CARBOHYD
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                                                                                                                                                        Repeat;
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S05639;
301870;
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91317791.
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em. 266:14371-14377(1991).
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         (GLYCOSAMINOGLYCAN).
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01-OCT-1996
30-MAY-2000
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PROSITE; PS00240.
                                                Mitogen;
SIGNAL
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EMBL; X96793; CAA65587.1;
HSSP; P15692; IVPF.
MGD; MGI:105095; PGF.
                                                                                                                                                                                                                         use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce) or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                       between the Swiss Institute of Bioinform
the European Bioinformatics Institute. The
use by non-profit institutions as long
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N:A. STRAIN-NIH SWISS;
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                                                                                           PROSITE;
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                                                                                                                                                                                                                                                                                                                                              SUBUNIT: HONODIMER, DISULFIDE-LINKED (BY SIMILARITY). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: GEOWTH FACTOR ACTIVE IN ANGIOGENESIS, AND CELL GROWTH (BY SIMILARITY).
PP00341: PDGF | 1.

IE: PS00249; PDGF_1; 1.

TE: PS00249; PDGF_2; 1.

TE: PS50278; PDGF_2; 1.

BY SIMILARITY.

1 18

PLACENTA GROWTH FACTOR.

BY SIMILARITY.

BY SIMILARITY.
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Rodentia;
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Last annotation update)
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(GLCNAC. .) (POTENTIAL).
(GLCNAC. .) (POTENTIAL).
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L., Dragani T.A.,
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01-MAY-1991
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CARBOHYD
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SEQUENCE
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J. Biol. Chem. 264:2876-2884(1989).
-!- FUNCTION: BINDS TO TYPE I AND TYPE II COLLAGEN AND AFFE RATE OF FIBRILS FORMATION. ALSO BINDS TO FIBRONECTIN AN
                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Day A.A., WcQuillan C.I., Termine J.D., )
"Molecular cloning and sequence analysis
proteoglycan II of bovine bone.";
Biochem. J. 248:801-805(1987).
                                                       EMBL; Y00712; CAA68702.1; PIR; S06280; S06280. B31430; B31430.
                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 31-54.
MEDLINE; 89123388.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BOVIN
    INTERPRO; IPR000372; -.
INTERPRO; IPR001611; -.
PFAM; PF00560; LBB; 7.
PFAM; PF01462; LRRNT; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota;
Mammalia; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PGS2_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83
                                                                                                                                                                                                                                                                     CHONDROITIN SULFATE
TISSUE OF ORIGIN.
SIMILARITY: BELONGS
                                                                                                                                                                                                                             SIMILARITY: THE REPEATED MANY PROTEINS. NUMBER IN
                                                                                                                                                                                                                                                                                                               BETA.
PTM: THE GLYCOSAMINOGLYCAN CHAIN ATTACHED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNDEGLESVP
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7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  s (Bovine).
n; Metazoa;
Eutheria;
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83
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(Rel.
(Rel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18. Created)
18. Last sequence update)
34. Last annotation update)
II PRECURSOR (PG-S2) (DECORIN).
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127
73
82
29
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97
17876
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         56.
70.
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INTERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

F16128BEA0790438 CRC64;
                                                                                                                                                                                                                             THIS PROTEIN:
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s of the cDN
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2.5
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TO FIBRONECTIN AND TO
                                                                                                                                                                                                                               (LRR)
: 10.
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                                                                                                                                                                                                                                                                                                    DEPENDING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA
                                                                                                                                                                                                                                            SEGMENT
                                                                                                                                                                                                                                                                                                  DECORIN CAN BE EITHER VDING UPON THE
                                                                                                                                                                                                                                                                        PROTEOGLYCANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for
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                                                                                                                                                                                                                                                                                                                                                                                                  ., Neame P.J.;
DS-PGI and
ed by octyl-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bovoidea;
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Best Local S
Matches 7
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PGS1_BOVIN S
P21809; P79259;
01-MAY-1991 (Rel
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CARBOHYD
DISULFID
DISULFID
SEQUENCE
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Repeat; Leucin
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
REPEAT
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REPEAT
Neame P.J.;
"Characterization of DS-PGII, from bovine
                                                                                                               "The primary structure of the core protein proteoglycan (Pi I) from bovine articular J. Biol. Chem. 264:8653-8661(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
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                                            TISSUE-CARTILAGE;
MEDLINE; 89123338.
Choi H.U., Johnson
                                                                                                                                                                                                                                         "Primary structure of cloned CDNA.";
                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                  SEQUENCE OF 38-53.
                                                                                                                                                                                                                               Biochem. Mol.
                                                                                                                                                                                                                                                        "Primary structure of bovine ao
                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                BONE/CARTILAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                          MEDLINE; 89255324.
Neame P.J., Choï H.U.,
                                                                                                                                                                                                                                                                               MEDLINE; 96113553.
                                                                                                                                                                                                                                                                                                     TISSUE-AORTA;
                                                                                                                                                                                                                                                                                                                                             Bovidae; Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                           15-JUL-1998 (Rel.
15-JUL-1998 (Rel.
                                                                                                                                                                                      TISSUE-CARTILAGE;
                                                                                                                                                                                                                                                                                                                                                                                                                (PG-S1).
                                                                                                                                                                                                   EQUENCE OF 38-369.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CNDEGLESVPTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CSDLGLEKVPXD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7; Conserv
                                          Johnson T.L.,
                                                                                                                                                                                                                                                                                                                                                                                    (Bovine).
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263
304
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31
78
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                                                                                                                                                                                                                               Biol.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
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36, Last annotation update)
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263
304
68
                                                                                                                                                                                                                                                                                                                                                        Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                         Chordata;
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    the dermatan sulfate articular cartilage
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56
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal
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                                            Pal S.,
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LRR 4.
LRR 5.
LRR 6.
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LRR 8.
LRR 9.
LRR 9.
LRR 10.
O-LINKED
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Pred.
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N-LINKED (GLCNAC. . .) (POTENTIAL)

N-LINKED (GLCNAC. . .) (POTENTIAL)

N-LINKED (GLCNAC. . .) (POTENTIAL)

BY SIMILARITY.

BY SIMILARITY.
                                                                                                                                                                                                                                                        aorta biglycan
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                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi;
actyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                             PRECURSOR (BIGLYCAN) (LEUCINE-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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/ SIMILARITY.
71E84DA2D87552C0
  cartilage
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                                            Tang L.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No;
                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     369
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  and skin isolated
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                                                                                                                               cartilage.";
                                                                                                                                           of the small,
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                                            Rosenberg L.C.,
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R.,
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                                                                                                                                                                                                                                                        Berenson
protein
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                 DS-PGI
                                                                                                                                                                                                                                                                                                                                                           Bovoidea;
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                                                                                                                                                                                                                                                           deduced
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Search completed: November Job time: 576 sec
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Best Local Similarity 58:3
Matches 7; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
REPEAT
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REPEAT
REPEAT
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PIR; A33701; A33701.
INTERPRO; IPRO00372; -.
INTERPRO; IPRO01611; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00560; LRR; 8. PFAM; PF01462; LRRNT; 1
                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
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                                                                        77 CSDLGLKAVPKE 88
                                                                                        1 CNDEGLESVPTE 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Repeat;
                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Leucine-repeat
                                                                                                                                             56.3%;
                                                                                                                                                                                                           41509 MW;
               9,
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               2000, 15:40:23
                                                                                                                                                                                                        C -> V (IN REF. 2).

C -> E (IN REF. 2).

A -> R (IN REF. 2).

KK -> Y (IN REF. 2).

KK -> Y (IN REF. 2).
                                                                                                                                Score 40; DB 1;
Pred. No. 6.6;
3; Mismatches
                                                                                                                                                                                                                                                                                                              O-LINKED
N-LINKED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
                                                                                                                                                                                                                                                                                                            D (GLYCOSAMINOGLYCAN).
D (GLYCOSAMINOGLYCAN).
D (GLCNAC...).
                                                                                                                                  2; Indels
                                                                                                                                                              Length 369;
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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
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                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                    Score
    length: 0
length: 2000000000
                                                                                                                                                                                                    Match Length
    SPTREMBL_14:*
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Gapop 10.0 , Gapext 0.5
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71
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                                                                                                                                                                                                                                                                                                                                           sp_phage: *
                                                                                                                                                                                                                                                                                                                                                                                                   sp_fungi:*
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                                                                                                                                                                                                                                                                                                                                                                                 sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                          sp_human:*
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sp_virus:*
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077643
075875
0708911
070123
073822
073822
090xG6
042571
073682
073682
                                                                                                                                                            Q9UH58
Q9UL23
Q9XSF3
                                                                                                                               Q9XSF4
060720
Q9XSF5
                                                                                                                                                                                                   IJ
                                                                                                   018843
                                                                                                             097500
                                                                                                                        Q16889
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Compugen Ltd.
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11.384 Million cell updates/sec
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Ogymf3 orf virus.
O77643 ovis aries
O75875 homo sapien
O88911 rattus norv
O70123 mus musculu
O73822 brachydanio
O99xy6 rattus norv
O42571 xenopus lae
O73682 brachydanio
O99x39 spalax leuc
                                                                                               Q16889 homo sapien
097500 oryctolagus
018843 oryctolagus
                                                                                                                                        Q9xsf4
060720
                                                                                                                                                                    Q9uh58
Q9u123
                                                                                                                                                                                                   Description
                                                                                                                                Q9xsf5
                                                                                                                                                            Q9xsf3
                                                                                                                                       8 homo sapien
3 homo sapien
3 canis famil
4 canis famil
0 homo sapien
                                                                                                                    canis famil
homo sapien
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ALIGNMENTS

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RESULT
Q9UL23
ID Q9
AC Q9
DT 01
DT 01
DT 01
DT 01
VA
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                                                                                                                                                                                                                       Query Match 93.
Best Local Similarity 92.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9UH58 PRELIMINARY; PRT; 147 AA.
Q9UH58;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 121 PRECURSOR.
Q9UL23 PRESIMINARY; PRT; 174 AA. Q9UL23; 01-MAY-2000 (TrimbLrel. 13, Created) 01-MAY-2000 (TrimbLrel. 13, Last sequence update) 01-JUN-2000 (TrimbLrel. 14, Last annotation update) VASCULAR PERMEABILITY FACTOR 148.
                                                                                                                                                                                                                                                                                                                     Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                            Sato J.D., Whitney R.G.;
"Human cDNA for vascular endothelial growth factor isoform VEGF121.";
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF214570; AAF19659.1; -.
INTERPRO; IPR007072; -.
PFAM; PF00341; PDGF; 1.
PFOSITE; PS00243; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                         147 AA;
                                                                                                                                                                                                                                                                                                     26
17219 MW;
                                                                                                                                                                                                                                      93.0%;
                                                                                                                                                                                                                       Score 66; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                     POTENTIAL.
DDF4D6994249BED6 CRC64;
                                                                                                                                                                                                                    J.00016;
1;
                                                                                                                                                                                                                                                       DB 4;
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RESULT
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Q9XSF4
AC Q5
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Best Local Similarity
Matches 12; Conser
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Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the ENEL; AF133248; AAD29682.1; -
INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 190 AA; 22292 MW;
                                                                                                                                                                                     Q9XSF4;
01-NOV-1999
01-NOV-1999
01-JUN-2000
      Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                               01-NOV-1999 (TremBLrel. 12,
01-JUN-2000 (TremBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9XSF3;
01-NOV-1999 (TrEMBLrel.
01-NOV-1999 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRN and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant."; Clin. Sci. 97:303-312(1999).
EMBL; AF091352; AAD55345.1; -.
INTERPRO; IPR000072; -.
IPRAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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[1]
                                                                                                                                                                                                                                                                                                                       Q9XSF4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9XSF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Whittle C.J., Gillespie K.M., Harrison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE-GLOMERULI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CNDEGLESVPTEE 13
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12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eutheria;
                                                                                                                                                                                                                                                   (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PDGF; 1.
; 22292 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chordata; (Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
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                                                                                                                                                                              . 12, Created)
. 12, Last sequ.
. 14, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12, Created)
12, Last sequence update)
14, Last annotation update)
                                                                                                                                                                                  Last sequence up
                                                                                                                                                   FACTOR 182.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 66; DB Pred. No. 0.00 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
Pred.
                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Fissipedia; Canidae; Canis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                    208
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0.00019;
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0.00021;
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                                                                                                                                                                              on update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 190;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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RESULT OF SECOND        RESULT
Q9XSF5
ID Q9
AC Q9
DT 01
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                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jingjing L., Roque R.S.;
Submitted (MAR-199) to the E
EMBL; AF133249; AAD29683.1; -
INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 208 ÅA; 24400 MW;
                                                                                                                                                                                                                                                                                                                                                                  CHAIN
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060720;
01-AUG-1998
01-MAY-1999
01-JUN-2000
Q9XSF5 PRELIMINARY;
Q9XSF5;
01-NOV-1999 (TrEMBLrel. 12,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Jingjing L., Roque R.S.;
Submitted (MAY 1998) to the
EMBL; AJ010438; CAA09179.1;
EMBL; AF062645; AAC16730.1;
HSSP; P15692; 2VPF.
                                                                                                                                                                                                                                                                                                                                                                                                               SIĞNAL
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Homo sapiens (Hunan).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE; 99096474.

Lei J., Jiang A.; Pei D.;

ridentification and characterization of a new splicing variant vascular endothelial growth factor: VEGF183.";

spechim. Biophys. Acta, Gene Struct. Expr. 1443:400-406(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-1999 (TIEMBLIel. 10, Last sequence update)
01-UN-2000 (TIEMBLIEL. 14, Last annotation update)
VEGF183 PROTEIN PRECURSOR (VASCULAR ENDOTHELIAL GROWTH FACTOR 183).
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SEQUENCE FROM N.A.
TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPR000072; -. PFAM; PF00341; FDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRODOM; PD001629;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCE OF 114-209 FROM N.A.
                                                                                                                                                               87 CNDEGLECVPTEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CNDEGLESVPTEE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS00249; PDGF; 1
                                                                                                                                                                                                                                                                                                                                                      27
27
209 7
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                                                                                                                                                                                                                                                      Conservative
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24400 MW;
                                                                                                                                                                                                                                                                           93.0%;
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92.3%;
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    Created)
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Pred. No.
                                                                                                                                                                                                                                                    Score 66; DB 4;
Pred. No. 0.00024;
D; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                  VEGF183 PROTEIN.
F01CCEACD945D6CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL
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0.00023;
                                                                                                                                                                                                                                                                                              Length 209;
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Best Local S
Matches 12
                                                                                                                            Matches
                                                                                                                                                      Query Match
Best Local
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EMBL; S85192; AAC63101.1; -
EMBL; S85224; AAC63101.1; J
EMBL; S85199; AAC63101.1; J
EMBL; S85201; AAC63101.1; J
EMBL; S85201; AAC63101.1; J
EMBL; S85222; AAC63101.1; J
EMBL; S85222; AAC63101.1; J
EMBL; S85222; AAC63101.1; J
HSSP; P15692; 2VPF.
INTERPRO; IPROBOU72; 1
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Submitted (MAR-1999) to the EMB
EMBL; AF133250; AAD29684.1; -
INTERPRO; IPRO00072;
IPROSITE; PS00244; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 AA; 25151 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VASCULTE (Human).
Homo sapiens (Human).
Homo sapiens (Human).
Crarvota; Metazoa; Chordata; Crarvota; Metazoa; Primates; C
                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q16889;
Q16889;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (
Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1996 (TremBLrel.
01-NOV-1998 (TremBLrel.
01-JUN-2000 (TremBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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01-JUN-2000 (TremBLrel.
VASCULAR ENDOTHELIAL GRO
                                                                                                                                                                                                                                                                                                                            PEAM; PE00341; PDGF; 1. PROSITE; PS00249; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Houck K.A., Ferrara N., Winer J., Cachianes G., "The vascular endothelial growth factor family: fourth molecular species and characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VASCULAR ENDOTHELIAL VEGF 206.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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109
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                                                         1 CNDEGLESVPTEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CNDEGLESVPTEE
CNDEGLECVPTEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CNDEGLECVPTEE
                                                                                                                         l Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
12; Conserv
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                                                                                                                                                                                                                                                                            254 AA;
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                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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121
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                                                                                                                                                                                                                                                                         29461 MW;
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cel. 14,
GROWTH
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92.3%;
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14,
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Last annotation updat
FACTOR 188.
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Last
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                                                                                                                      Score 66; DB Pred. No. 0.00 0; Mismatches
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Pred. No. 0.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; ; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                         069DFE9B9723DBA8 CRC64;
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annotation update)
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                                                                                                                                                                                   DB 4;
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                                                                                                                                                   .00029;
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y: identification of a
of alternative splicing
                                                                                                                      1;
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                                                                                                                                                                               Length 254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
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Matches 11
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Matches
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                                                                                                                                     Increases in capillarization and mitochondrial Low-frequency-stimulated rabbit muscle.";

Am. J. Physiol: 274:0-0(1998).

EMBL: AF022179; AAC15469.1; -.
HSSP; P15692; 1VPP.
INTERPRO; IPPRO??
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097500;
01-MAY-1999
01-MAY-1999
01-JUN-2000
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NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                     018843 PRÉLIMINARY; PRT; 75 AA.
018843;
01-JAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF.
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Leporidae; Oryctolac
                                                                                                                                                                                                                                                          Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON_TER
                                                                                                                                  INTERPRO; IPR000072; -. PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                              VEGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INTERPRO; IPRO00072; -. PFAM; PF00341; PDGF; 1. PROSITE; PS00249; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Rabbit VEGF CDNA, partial.";
"Rabbit VEGF CDNA, partial.";
Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases
EMBL; AB020216; BAA36949.1; -.
HSSP; P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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01-MAY-1999 (TrEMBLrel. 10,
01-JUN-2000 (TrEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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29
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          CNDEGLESVPTEE
CNDESLECVPTEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                   Similarity
                                                                                                                      )0341; PDGF; 1.
PS00249; PDGF;
                                                                                        75 AA;
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                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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7819
41
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                  13
                                                                                          8720 MW;
                                                 84.5%;
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, Last annotation upd
H FACTOR (FRAGMENT).
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                                       Score 60; DB 6;
Pred. No. 0.00093;
); Mismatches
                                                                                          DDCE2C5B29E69359 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 60; DB 6;
Pred. No. 0.00084;
); Mismatches 2
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STRAIN-COLUMBIA-RAMBOULLIET;
Cheung C.Y., Brace R.A.;
"Ovine vascular endothelial growth fa
expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP; p15692; 2VGH.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B
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HSSP; P15692; 1VPP.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTT; PS00349; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 132 AA; 14763 MW; 1
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01-JUN-2000
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Meyer M., Clauss M., Lepple-Wienhues A., Waltenberger J.,

Rugustin H.G., Ziche M., Lanz C., Buettner M., Rziha H.J., Dehio C.;

"A novel vascular endothelial growth factor encoded by Orf virus,

"B novel vascular endothelial growth factor encoded by Orf virus,

"EMPO J. 18:363-374(1999).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovis aries (Sheep).
Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                     84.5%;
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FACTOR.
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MEDLINE; 98119755.

Claffey K.P., Shih S.-C., Mullen A., I Claffey K.P., Shih S.-C., Mullen A., I Abrams K.R., Lee: S.W., Detmar M.; Morams K.R., Lee: S.W., Detmar M.; Tidentlification of a human VPF/VEGF 3 hypoxia-induced mRNA stability."; Mol. Blol. Cell 9:469-481(1998).

EMBL; ARF022375; AAC63143.1; --
HSSP; P15692; IVPP.
INTERPRO; IPRO00072; --
PFAM; PF00341; PDGF; 1.
PRODOM; PD001629; --; 1.
SEQUENCE 191 AA; 22320 MW; B5E4359
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SEQUENCE
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01-NOV-1998 (TIEMBLrel. 08,
01-NOV-1998 (TIEMBLrel. 08,
01-JUN-2000 (TIEMBLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Eukaryota; Metazoa; Chordata; Catarrhini; Hominidae;
                                                                                                                           Growth Factor in the Adult Rat and Submitted (JUL-1998) to the EMBL/GE EMBL, AF080594; AAC36708.1; -. HSSP; P15692; IVPP.
                                                                                                                                                                    Burtchardt M., Burchardt T., Chen M.-W., Shabsigh A., de id
Burttyan R., Shabsigh R.;
"Expression of Messenger RNA Splice Variants for Vascular
"Expression of Messenger RNA Splice Variants for Vascular
                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                      088911
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                                                                                                     PFAM; PF00341; FDGF;
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0341; FDGF; 1.
PS00249; PDGF; 1.
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ilarity 76.9%;
Conservative
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Pred. No. 0.01
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Last annotation update)
FACTOR A 110 PRECURSOR
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PFAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

PRODOM; PD001629; -; 1.

SEQUENCE 141 AA; 15550 M
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01-AUG-1998
01-JUN-2000
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073822;
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Sugihara T., Kaul S.C., Mitsui Y., Wadhwa R.;

"Enhanced expression of multiple forms of VEGF is associated with spontaneous immortalization of murine fibroblasts.";

Biochim. Biophys. Acta 1224:365-370(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE; 98112857.

Sugihara T., Wadhwa R., Kaul S.C., Mitsui Y.;

Sugihara T., Wadhwa R., Kaul S.C., Mitsui Y.;

"A novel alternatively spliced form of murine vascular endothelial growth factor, VEGF 115.";

growth factor, VEGF 115.";

J. Biol. Chem. 273:3033-3038(1998).

EMBL; U50729; AAC05442.1; -.

HSSP; P15692; 1VPP.
                                                                                SEQUENCE FROM N.A.

Liang D., Ge R.;

Submitted (APR-1998) to the EMBL; AF059661; AAC14713.1;

HSSP; P15692; 1VPF.
                                                                                                                                                                                                                                               Brachydanio rerio (Zebrafish) (Zebra danio).
Bukaryota; Metazoa; Chordata; Craniata; Vettebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi
Cypriniformes; Cyprinoidea; Cyprinidae; Rasborinae; Danio.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-ICR;
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01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR 121 ISOFORM.
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INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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(TIEMBLIel. 07, Last sequence update)
(TIEMBLIel. 14, Last annotation update)
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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ALIGNMENTS

C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W. Mol. Endocrinol. 5, 1806-1814, 1991
A;Title: The vascular endothelial growth factor family: identification of a fa;Reference number: A41551; MUID:92168017 vascular endothelial growth factor 206 precursor - human N;Alternate names: vascular permeability factor N;Contains: vascular endothelial growth factor 121 (VEGF A; Status: nucleic acid sequence not shown; not compared with conceptual translation A; Molecule type: mRNAA; Reference number: A41551; A; Accession: A41551 C; Species: Homo sapiens (man) A; Accession: B41551 A; Molecule type: mRNA A; Residues: 1-140, 'N', A;Status: nucleic acid sequence not shown A; Accession: C41551 A;Residues: 1-232 <HOU1>
A;Cross-references: GB:S85192; NID:g246155; A; Molecule type: mRNA 'N',183-232 <HOU2> factor 121 (VEGF 121); VEGF 165; VEGF 189; PID:g246156 fourth

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A;Residues: 1-141,227-232 <HOU>
R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; J. Biol. Chem. 266, 11947-11954, 1991
J. Biol. Chem. 266, 11947-11954, 1991
A;Title: The human gene for vascular endothelial growth factor. Multiple protein form A;Reference number: A40454; MUID:91268072
A;Accession: A40454

A;Molecule type: DNA
A;Residues: 1-165,183-232 <TII>
A;Cross-references: (B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976;
A;Accession: B40454
A;Accession: CPP: DNA
A;Molecule type: DNA
A;Residues: 1-140,'N', 183-232 <TII>
A;Cross-references: (B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
A;Cross-references: (B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;
A;Cross-references: (C40454)

A; Molecule type: DNA
A; Residues: 1-141,227-232 <TI3>
A; Residues: 1-141,227-232 <TI3>
A; Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
A; Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63976; GB:M63978
A; Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63978; GB:M63978
A; Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63978; GB:M63978
A; Cross-references: 3B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63978; A;Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF A;Reference number: A40079; MUID:90069609

A; Reference number: A40079; A; Accession: A40079

A; Status: not compared with conceptual translation

A;Molecule type: mRNA ½
A;Residues: 1-165,183-232 <KEC>
A;Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301
R;Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989

endothelial growth factor is a secreted angiogenic mitogen.

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A; Note: sequence extracted from NCBI backbone R; Claffey, K.P.; Wilkison, W.O.; Spiegelman, H.J. Biol. Chem. 267, 16947-16322, 1992
A; Title: Vascular endothelial growth factor. R.A; Reference number: A43351, MUID:92355593
A; Accession: A43351
A; Molecule type: MRNA
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A; Molecule type: MRNA
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A; Molecule type: protein
A; Residues: 27-36;43-49, 'R';72-76, 'Q', 78-81;59-71 <C
                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 1-190 <BRE>
A;Cross-references: GB:S38083; NID:g249858;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C;Accession: B44881; A43351; A61029
R;Breier, G; Albrecht, U; Sterrer, S.; Risau, W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Description: promotes fluid and protein leakage from blood vessels C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular profit F;1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V20 F;1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predic F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic F;1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status prediction for the product of the pr
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A;Title: Human vascular permeability factor. Isolation from U937 cells A;Reference number: A34492; MUID:90062112
A;Accession: A34492
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A; Residues: 1-140, 'N', 183-232 <WEI>
A; Cross-references: EMBL:X62568; NID:g37658;
A; Experimental source: AIDS-Kaposi's sarcoma
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                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Expression of vascular endothelial A;Reference number: A44881; MUID:92274860 A;Accession: B44881
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Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A;Title: AIDS-associated Kaposi's sarcoma cells in
A;Reference number: JQ1463; MUID:92231879
       A; Residues:
                                                                                                                                                                                                                                                                                        A; Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Development 114, 521-532, 1992
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C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. C;Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; home F;1-26/Domain: signal sequence #status predicted <SIG>F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: protein
A; Residues: 27-33 <CLA>
R; Sugihara, T.; Kaul; S.C.; Mitsui, Y.; Wadhwa,
B; Sugihara, T.; Kaul; S.C.; Mitsui, Y.; Wadhwa,
Biochim. Biophys. Acta 1224, 365-370, 1994
A; Title: Enhanced expression of multiple forms
A; Reference number: $52136; MUID:95101726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 1-140, 209-214 <br/>
A; Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;<br/>
A; Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1;<br/>
A; Note: sequence extracted from NCBI backbone (NCBIN:107624,<br/>
R; Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.;<br/>
J. Exp. Med. 172, 1535-1545, 1990<br/>
A; Title: Vascular permeability factor: a tumor-derived polype<br/>
A; Reference number: A60932; MUID:91079755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, Development 114, 521-532, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vascular endothelial: growth factor-3 precursor - mouse N;Contains: vascular endothelial growth factor-2; vascular permeability factor C;Species: Mus muscullus (house mouse) C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999 C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999 C;Accession: A44881; C44881; A60932; S52136
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A44881
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                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: A; Accession: S52136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: A60932
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A;Experimental source: embryo
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A; Residues: 1-214 < BRE>
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A; Residues: 1-140,209
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                                                                                      Score 72; DB
; Pred. No. 8.5
0; Mismatches
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J. 8.5e-06;
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NCBIP:107625)
Familletti, P
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NCBIP:110675)
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R;Ilscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-derived A;Reference number: A33787; MUID:90121225
A;Status.
                                                                                                                                                                                            C;Species: Bos primigenius taurus (cattle)
C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C;Accession: A33787
R;Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; L.
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A33787
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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Accession: S52130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: S57956
R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; submitted to the EMBL Data Library, July 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ovine vascular endothelial growth factor - sheep C;Species: Ovis orientalis aries, Ovis ammon aries C;Date: 13-Jan_1996 #sequence_revision 01-Mar-1996
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A; Residues: 1-146 < RED>
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A; Accession: S57956
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A; Residues: 1-120 <TIS>
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                                                                                                                           A;Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560
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A; Residues: 1-190 < SHA>
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Pred. No. 8.
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                                                                                                                                                                                                                                                                          R;Conn, G.; Bayne, M:L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Ho Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is A;Reference number: A35987; MUID:90207249
A;Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C;Accession: A35987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Ferrara, N.; Henzel, W.J.

Blochem. Blophys. Res. Commun. 161, 851-858, 1989
A;Title: Pituitary follicular cells secrete a novel heparin-binding growth factor A;Reference number: A33255; MUID:89286596
A;Accession: A33255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 27-190 <TIS>
A;Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: mRNA
A;Residues: 1-190 <LEDY
A;Residues: 1-190 <LEDY
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
A;Titscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.;
Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vscular enJothelial growth factor: a new member of the platelet-derived A;Reference number: A3787; MUID:90121225
A;Accession: B33787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular endothelial growth factor precursor (version 2) - bovine C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999 C;Accession: B40080 B33787; A33255
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A; Residues: 1-190 <CON>
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F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-190/Product: vascular endothelial growth factor #status predicted
F;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein A; Residues: 27-31 <FER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Reference number: A40080; MUID:90069608
A; Accession: B40080
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A;Title: Vascular endothelial growth factor is a secreted anglogenic mitogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B40080
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밁
                                                                                                                                                                                       A; Cross: references: GB: M32167; NID: g204287; PIDN: AAA41211.1; PID: g204288
                                                                                                                                                                                                                                                        A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                  glioma-derived vascular endothelial cell growth factor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
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Best Local
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98
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                                        ESNITMQIMRIKPH 16
ESNVTMQIMRIKPH
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                                                                                     Conservative
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111
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93.3%;
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92.9%;
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Pred. No.
                                                                                  Score 71; DB 2;
Pred. No. 1.1e-05;
1; Mismatches 0
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R;Flamme, I.; Breier, G.; Risau, W.
Dev. Biol. 169, 699-712, 1995
A;Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (flk-1) are expression: I51295; MOID:95301109
A;Accession: I51295
A;Molecule type: mRNA
A;Residues: 1-158 <DIS>
A;Cross-references: GB:L40030; NID:gl263413; PIDN:AAA97426.1; PID:gl263414
                                                                                                                                                                                     placental growth factor precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
C;Accession: A56125
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            neuromusculin - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 13-Aug-1999
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T13669
                                                                                  A; Reference number: A56125; A; Accession: A56125
                                                                                                                         R;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; Palisi J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification and characterization of a naturally occurring vascular endothelia
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A; Residues: 1-1011 <K
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A; Reference number: 217697;
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A; Residues: 1-128 <FLA>
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C;Species: Phasianidae gen. sp. (quail)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
                                                               A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:L23146; NID:g385073; PID:g385074; PIDN:AAA03750.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; translated from GB/EMBL/DDBJ
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\:Gene: VEGF
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Matches S
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 60.09; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                               53.5%;
                                                                                                         characterization of a naturally occurring vascular endothelia.
5; MUID:95221439
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75.0%;
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Pred. No.
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C; Genetics:
A; Gene: CESP: B0228.2
A; Introns: 1456/2; 1:
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                              R; Harris, D.; McDonald, S.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, February 1996
                                                                             probable dolichyl-diphosphooligosaccharide--protein glycotransferase (EC 2.4.1.119)
C; Species: Schizosaccharomyces pombe
C; Date: 03-Dec-1999 *sequence_revision 03-Dec-1999 *text_change 03-Dec-1999
                                                             C; Accession: T38465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data Library, March A;Description: The sequence of C. elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Keywords: glycoprotein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: 218324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nypothetical protein B0228.2 - Caenorhabditis elegans
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Species: Caenorhabditis elegans;Date: 15-Oct-1999 #text_change 15-Oct-1999;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
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Best Local
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8; Conserv
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8; Conserv
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                                                                           *sequence_revision 03-Dec-1999 *text_change 03-Dec-1999
                                                                                                                                                                                                                                                                          52.3%;
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Pred. No.
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Pred. No. 0.62;
                             February
                                                                                                                                                                                                                                                              Mismatches
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cosmid B0228
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7.9;
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                                              M.A.;
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                                              Walsh,
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A; Map position:
C; Keywords: gly
                                                                                                                                                       A; Gene: SPDB:SPAC27F1.07
                                                                                                                                                                                  A;Cross-references: EMBL:Z69368; PIDN:CAA93296.1; GSPDB:GN00066; SPDB:SPAC27F1.07
A;Experimental source: strain 972h-; cosmid c27F1
                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-450 <HAR>
                                                                                                                                                                                                                                        A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                      Matches
                                                                     Query Match
Best Local
287
                          Ν
EVGNITTSHMRVEPH
                          EESNITMQIMEIKPH 16
                                                   1 Similarity
8; Conserve
                                                                                                                           glycosyltransferase; hexosyltransferase
                                                     Conservative
301
                                                                      50.0%;
                                                                     Score 43;
Pred. No.
                                                      Mismatches
                                                                   DB 4.4;
                                                                                  2;
                                                      5.
                                                                                 Length 450;
                                                     Indels
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                                                      Gaps
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Query Match
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A;Description: The sequence of Saccharomyces cerevisiae chromosome XVI left arm.
A;Reference number: S69040
A;Accession: S69044
Search completed: November 9, 2000, 15:32:04 Job time: 185 sec
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                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: mRNA
A;Residues: 1-149 <MAG>
A;Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1; PID:g35522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R:Maglione, D.; Guerriero, V.; Viglietto, G.; Delli-Bovi, P.; Persico, M.G. Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A;Title: Isolation of a human placenta cDNA coding for a protein related to the vascular A;Reference number: A41236; MUID:92021031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 placental growth factor precursor - human
C:Species: Homo sapiens (man)
C:Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Map position: 16L
A; Note: YPL141c
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A; Residues: 1-865 <HAL>
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N;Alternate names: hypothetical protein LPI5
C;Species: Saccharomyces cerevisiae
C;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 24-Sep-1999
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                                                                                                                                                                                                                                                                                                                    A;Cross-references: GDB:134676; OMIM:601121
A;Map position: 14q24-14q31
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Gapop 10.0 , Gapext 0.5
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PLEE_BACSU
HTS1_COCCA
HAP2_KUMAN
HAP2_KUMAN
HAP2_KUMAN
HAP2_KUMAN
FOLG_SBNVV
RIBC_BACSU
HAP2_SCHPO
RIBC_BCOLI
TRA2_BOVIN
POLG_SBNVIN
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12.220 Million cell updates/sec
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P50412 ovis aries
P26617 cavia porce
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Q09221
Q9y4h2
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1 bos taurus
1 sus scrofa
2 rattus norv
2 gallus gall
4 mus musculu
1 caenorhabdi
               homo sapien
schizosacch
homo sapien
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cochliobolu
kluyeromyc
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THE MACEO	TATE WASH	VE6_HPV40	VE6_HPV07	RNP_BALAC	DSC1_HUMAN	KMLS_HUMAN	MYSH_ACACA	Y126_HUMAN	YAV4_SCHPO	YGI1_YEAST	HAP2_YEAST	VP18_WTVNJ
sandos macropus en					Q08554 homo sapien							P31612 wound tumor

ALIGNMENTS

R R R R R	R R R R R R R R R R R R R R R R R R R	RA R	R R R R R R R R R R R R R R R R R R R		RESULT VEGF_H
SEQUENCE OF 27-41. MEDLINE; 93145946. Fiebich B.L., Jaeger B., Schoellmann C., Weindel K., Wilting J., Kochs G., Marme D., Hug H., Weich H.A.; "Synthesis and assembly of functionally active human vascular	162112. Olander J.V., Heuvelman D., N., Olander B.L., Leimgruber R., Fede laymore B.L., Leimgruber R., Fede lar permeability factor. Isolati m. 264:20017-20024(1989).	SEQUENCE FROM N.A. MEDILINE; 92231879. Weindel K., Marme D., Weich H.A.; Weindel K., Marme D., Weich H.A.; "AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor."; Biochem. Biophyś. Res. Commun. 183:1167-1174(1992). [5] PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.	SEQUENCE FROM N.A. SEQUENCE FROM N.A. MEDLINE; 91268072. Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., Tiddes J.C., Abraham J.A.; "The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing."; J. Biol. Chem. 266:11947-11954(1991).	SEQUENCE FROM N.A. SEQUENCE FROM N.A. MEDLINE; 90069608. Leung D.W., Cachianes G., Kuang WJ., Goeddel D.V., Ferrara N.; "Vascular endothelial growth factor is a secreted angiogenic mitogen."; Science 246:1306-1309(1989). [2] SEQUENCE FROM N.A., AND PARTIAL SEQUENCE. MEDLINE; 90069609. MEDLINE; 90069609. Keck P.J.; Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J., Connolly D.T.; "Vascular permeability factor, an endothelial cell mitogen related to PDGF."; Science 246:1309-1312(1989).	->=====================================

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"The crystal structure of vascu refined to 1.93-A resolution: m binding.";
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or send a
EMBL;
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-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIGGENESIS, CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wiesmann C., Christinger H.W., Coc
Fairbrother W.J., Keenan C.J., Mer
"Crystal structure of the complex
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "1H, 13C, and 15N backbone assignment and secondary structure receptor-binding domain of vascular endothelial growth factor. Protein Sci. 6:2250-2260(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fairbrother W.J., Champe M.A., Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       endothelial growth factor homodimers in insect cells.";
Eur. J. Biochem. 211:19-26(1993).
                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
Starovasnik M.A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRUCTURE
                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                         SIMILARITY).

ALTERNATIVE PRODUCTS: FOUR FORMS
ALTERNATIVE SPLICING OF THE SAME
VEGF-189 AND VEGF-215).
                                                                                                                                                                                                                                                                                                                                                                        SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED
TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARII
        ; M32977; AAA35789.1;
M32978; AAA36804.1;
M63978; AAA36804.1;
M63971; AAA36804.1;
M63972; AAA36804.1;
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                                                                                                                                                                                  s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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vascular endothelial growth factor (VEGF)
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receptor binding site.";
94:7192-7197(1997).
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     SEQUENCE FROM.N.A. (VEGF-1).

MEDLINE; 92355593.

Claffey K.P., Wilkison W.O., Spiegelman B.M.;

"Vascular endothelial growth factor. Regulation differentiation and activated second messenger p J. Biol. Chem. 267:16317-16322(1992):
                                                                                                               VEGF.
Mus musculus (Mouse).
Mus musculus (Mouse).
Marvota; Metazoa; Chordata; Metazoa; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR;
PDB;
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PIR;
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PIR;
J. Biol. Chem. [3]
                                                              Breier G., Albrecht U., Sterrer S., Risau W.; "Expression of vascular endothelial growth factor anglogenesis and endothelial cell differentiation. Development 114:521-532(1992).
                                                                                               MEDLINE; 92274860.
                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                              3D-structure.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
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A40079; A40079;
A40080; A40080;
A40454; B40454;
B40454; C40454;
C40454; C40454;
J01463; J01464;
J01464; J01464;
J1748; S17348;
S17348; S17348;
IVGH; OB ADR-98;
IVFF; OB-APR-98;
IVFF; OB-APR-98;
IVFF; 29-JUL-98;
IVFP; 23-FEB-99;
IVFP; 23-FEB-99;
IVFP; 23-FEB-99;
IVFP; 23-FEB-99;
                                                                                                                                                                                                                                                EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF00341;
                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                       Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                             PS00249; PDGF_1;
PS50278; PDGF_2;
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142
215 /
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101
141
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83
77
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25173
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                                                                                                                                                                                                                                                                               Score 77; DB; Pred. No. 3.3
                                                                                                                                                                                                                                                                                                                       MISSING (IN ISOFORM VEGF-165).
MISSING (IN ISOFORM VEGF-121).
; 7B9759AD5871FF33 CRC64;
                                                                                                                                                                                                                                                                                                                                             INTERCHAIN.
N-LINED (GLCNAC. . .).
K -> N (IN ISOFORM VEGF-121 AND VEGF-165).
                                                                                                                                                                                                                                                                                                                                                                               INTERCHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                               VASCULAR
                                                                                                                     Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                              ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                                                                      DB 1; L
3.3e-07;
                                                                                                                                                               (VEGF) (VASCULAR
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                                                                                                                                                                                                                                                                                              Length 215;
                pathways.";
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Best Local
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DISULFID
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CARBOHYD
VARSPLIC
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CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A.; "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and
                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MGD; MGI:103178; VEGF.
INTERPRO; IPR000072; -
PFAM; PF00341; PDGF; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  characterization of transcriptional and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       regulatory sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 1-3 FROM N.A. MEDLINE; 96216498.
98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NL; S37052; AAB22253.1; -.
LL; S38083; AAB22253.1; -.
SL; S38100; AAB22253.1; -.
NL; M95200; AAA0547.1; -.
NL; U41383; CAB35545.1; -.
NL; A43351; A43351.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME GENE. THE LONGEST FORM (VEGF-3, SHOWN HERE) CONTAINS A BASIC INSERT LINKED TO CELL-ASSOCIATION/HEPARIN-BINDING.
TISSUE SPECIFICITY. THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: VEGF-1 AND VEGF-2 ARE SECRETED WHILE
VEGF-3 REMAINS CELL-SURFACE ASSOCIATED UNLESS RELEASED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3101. Chem. 271:3877-3883(1996).
FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF CONTINUES IN KIDNEY GLOMERULI AND CHOROID PLEXUS IN ADULTS. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE SPECIFICITY: IN DEVELOPING EMBRYOS, EXPRESSED MAINLY IN THE CHOROID PLEXUS, PARAVENTRICULAR NEUROEPITHELIUM, PLACENTA !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HEPARIN.
ALTERNATIVE PRODUCTS: THREE FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KIDNEY GLOMERULI. ALSO FOUND IN BRONCHIAL EPITHELIUM, ADRENAL GLAND AND IN SEMINIFEROUS TUBULES OF TESTIS. HIGH EXPRESSION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
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ESNITMQIMRIKPH
                                           ESNITMQIMRIKPH 16
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                                                                                         Similarity
14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Growth
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51
86
140
141
                                                                                            Conservative
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'8; PDGF_2; 1.
| factor; Glyco
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93
127
129
76
85
100
140
164
208
111
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                                                                                                               100.0%;
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                                                                                                                                                                                                                                 INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLUAG. . . .) (PROBABLE).
K -> N (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-1).
MISSING (IN ISOFORM VEGF-2).
GE -> ER (IN REF. 2).
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VASCULAR ENDOTHELIAL (
BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.
                                                                                                             Score 72;
Pred. No.
                                                                                                                                                                                                            B5540B51E4BB6E17 CRC64;
                                                                                            Mismatches
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                                                                                                                                          DB 1;
                                                                                                             2.8e-06;
                                                                                                                                     Length 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GROWTH FACTOR.
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RESULT 3
VEGF_SHEEP

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P50412;
01-0CT-1996
01-0CT-1996
01-NOV-1997
CHAIN
DISULFID
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DISULFID
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;

"Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum.";

J. Reprod. Fertil. 108:157-165(1996).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHER CELL GROWTH. INDUCES ENDOTHERIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mitogen;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X89506; CAA61677.1;
HSSP; P15692; IVPF.
INTERPRO; IPRO05072; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bovidae; Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PERMEABILITY FACTOR)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PFAM; PF00341; PDGF;
                                                                                                                                                                                                                              97
                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                     EESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SWISS-PROT entry is copyright. It is produce the Swiss Institute of Bioinformatics
                                                                                                                                                                                                              EEFNITMQIMRIKPH,111
                                                                                                                                                                                                                                                                                                                    14;
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ps50273; pDGF_2;
Growth factor; Gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         396 (Rel. 34, Created)
996 (Rel. 34, Last sequence update)
997 (Rel. 35, Last annotation update)
4 ENDOTHELIAL GROWTH FACTOR PRECURSOR
(LITY FACTOR) (VPF).
                                                                                                                                                                                                                                                                                                                                        Similarity
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93
127
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                                                                                                                                                                                                                                                                                                                                                                                                                                 17247
                                                                                                                                                                                                                                                                                                                                      82.6%;
93.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                              , WM
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VASCULAR ENDOTHELIAL GROWTH F
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTEN
M; 4E792CB557F91760 CRC64;
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                                                                                                                                                                                                                                                                                                                 Score 71; DB 1; L
Pred. No. 2.8e-06;
D; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                             Length 146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
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Matches 14
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P15691;
01-APR-1990
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pROSITE;
Mitogen;
DISULFID
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SEQUENCE
                                                                                                                                                                                                                                                                                                   01-APR-1990 (Rel. 14,
01-APR-1990 (Rel. 14,
01-OCT-1996 (Rel. 34,
VASCULAR ENDOTHELIAL
                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebra
Mammalia; Eutheria; Cetartiodactyla; Ruminantia;
                                                        mitogen.
                                                                                                               SEQUENCE FROM N.A., AND SEQUENCE OF 27-47. MEDLINE; 90069608.
                                                                                                                                                                              Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                 BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                Science
                                                                       "Vascular endothelial
                                                                                                                                                                                                                                                                                    PERMEABILITY
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HSSP; P15692; 2VGH.
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Eukaryota; Metazoa; Chordata;
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Berse B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBUNIT: HOMODIMER, DISULFIDE-LINKED SUBCELLULAR LOCATION: SECRETED BUT RITO THE EXTRACELLULAR MATRIX UNLESS RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CELL GROWTH. INDUCES PERMEABILITY.
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; PS50278; PDGF_2; 1.
; Growth factor; Glyco
D 25 67
D 56 101
D 60 103
D 50 50
D 59 59
D 74 74
                              246:1306-1309(1989).
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Eutheria;
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    14, Created)
    14, Last sequence update)
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    ILIAL GROWTH FACTOR PRECURSOR (*)
    TOR) (VPF).

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93.3%;
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37 BY SIMILARITY.

38 SIMILARITY.

39 SIMILARITY.

30 INTERCHAIN (BY SIMILARITY).

50 INTERCHAIN (BY SIMILARITY).

59 INTERCHAIN (BY SIMILARITY).

74 N-LINKED (GLCNAC. . . ) (POTENTIAL).

19330 MW; 9EB86A81A9D5DCA4 CRC64;
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wth factor
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TOR ACTIVE IN ANGIOGENESIS, AND ENDOTHE
ENDOTHELIAL PROLIFERATION AND VASCULAR
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                                                                     J W.-J.,
actor is
                                                                                                                                                                                                                                                                                                                                                                                                         190
                                                                   Goeddel D.V., Ferrara a secreted angiogenic
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                                                                                                                                                                                                                   Vertebrata;
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cora; Bovoidea;
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P49151;
01-FEB-1996
01-FEB-1996
01-OCT-1996
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EMBL; M31836; AAA30804.1; -.
EMBL; M33750; AAA30805.1; -.
PIR; A33255; A33255.
PIR; A33255; A33257.
PIR; A33787.
A3787.
PIR; B40080; B40080.
HSSP; P15692; 2YGH.
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SEQUENCE
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SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrara N., Henrel W.J.;
Ferrara N., Henrel W.J.;
Ferrara N., Henrel W.J.;
Frituitary follicular cells secrete a novel heparin-binding factor specific for vascular endothelial cells.";
Biochem. Biophys. Res. Commun. 161:851-858(1989).
-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOCELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tischer E., Gospodarowicz D., Mitchell R., Silva N
Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
"Vascular endothelial growth factor: a new member
derived growth factor gene family.";
Biochem. Biophys. Res. Commun. 165:1198-1206(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                            PFAM;
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                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE;
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                                                                                                                                 97
                                                                                                                                                        2 EESNITMQIMRIKPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                EEFNITMQIMFIKPH
                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                              ); IPR000072; -. 100341; PDGF; 1. PS00249; PDGF_1; 1. PS50278; PDGF_2;
 996 (Rel. 33, Created)
996 (Rel. 33, Last sequence update)
996 (Rel. 34, Last annotation update)
ENDOTHELIAL GROWTH FACTOR PRECURSO
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                                                                 STANDARD;
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93.3%;
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BY SIMILARITY.
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MISSING (IN ISOFORM BETA).
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lon update)
PRECURSOR (VEGF) (VASCULAR
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                                                                                                                                                                            DB 1; bc. 3.8e-06; 1;
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VASCULAR ENDOTHELIAL GI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochim. Biophys. Acta 1260:235-238(1995).

-!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ECELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VAPERMEABILITY (BY SIMILARITY).

-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X81380; CAA57143.1;
HSSP; P15692; 2VGH.
INTERPRO; IPR000072; -.
PFAM; PF00341; PDGF; 1.
SEQUENCE FROM N.A., MEDLINE; 90207249.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Nucleotide sequence and expression endothelial growth factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sharma H.S., Tang Z.H.,
                                             Rattus norvegicus (
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-HEART
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                                                                                                                                                                                                                                    EESNITMQIMRIKPH
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PS50278; PDGF_2;
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Eutheria; Cetartiodactyla; Suina; Suidae;
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                                                       (Rat).
                                 Chordata;
Rodentia;
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GROWTH FACTOR PRECURSOR
(VPF).
                                                                                                                                                                                                                                                                       82.6%;
93.3%;
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            SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gho B.C.H., Verdouw P.D.; d expression of the porcin
                                                                                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                                                                                                                                                        POTENTIAL.

VASCULAR ENDOTHELIAL GROWTH F.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                      Score 71; L
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC. . .) (P
04D40B8D7913047F CRC64;
                                 Craniata; Vertebrata;
Sciurognathi; Muridae
            27-190
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                                                                                                                                                                                                                                                                                                                                                                                                                           Signal.
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J. 8e-06;
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                                  Muridae;
                                                                                           (VEGF)
                                                                                                                                                                                                                                                                                  Length 190
                                                                                                                                                                                                                                                                                                                                                                                                      GROWTH FACTOR
                                  Euteleostomi;
; Murinae; Rattus
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                                                                                                                                                                                                                                                                                                                               (POTENTIAL).
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RESERVATION OF THE PROPERTY OF
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Matches 13
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_CHICK
_YEGF_CHICK
_STANDARD;
_PS2582;
_Q91420;
_Q1-QCT-1996 (Rel. 34, Created)
_G1-QCT-1998 (Rel. 36, Last sequence update)
_G1-DEC-1998 (Rel. 37, Last annotation update)
_VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR
_PERMEABILITY FACTOR) (VPF).
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DISULFID
DISULFID
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CARBOHYD
                                                                                                                                Gallus gallus (Chicken), and
Coturnix coturnix japonica (Japanese
Eukaryota; Metazoa; Chordata; Craniat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
Mitogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <del>-</del> -
SEQUENCE FROM N. SPECIES-CHICKEN; Takahashi T.;
                                                                                                                  Eukaryota; Metazoa;
Archosauria; Aves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; M32167; AAA41211.1;
PIR; A35987; A35987.
HSSP; P15692; 2VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
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"Amino acid and CDNA sequences of a vascular endothelial cell mitogen
that is homologous to platelet-derived growth factor.";

Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).

-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CELL GROWTH: INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conn G., Bayne M.L., Soderman D.D., Palisi T.M., Hope D.A., Thomas K.A.
                                                                                            Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBUNIT: HOMODIMER, DISULFIDE-LINKED. SUBCELLULAR LOCATION: SECRETED BUT RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHOROID PLEXUS. ALSO FOUND ABUNDANTLY IN THE OVARY AND IN KIDNEY GLOMERULI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PERMEABILITY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESNVTMQIMRIKPH
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13; Conserv
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Growth factor; G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PS00249; PDGF_1;
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92.9%;
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BY SIMILARITY.
BY SIMILARITY.
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Pred. No. 3.8e-06;
1; Mismatches 0
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INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC...).
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                                                                                                                                        apanese quail).
Craniata; Vertebrata;
                                                                                                                    Galliformes;
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589374010441F377 CRC64;
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                                                                                                                  Phasianidae;
                                                                                                                                                                                                                                                             (VEGF) (VASCULAR
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                                                                                                                                          Euteleostomi;
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SEQUENCE
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SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Overexpression of vascular endothel embryo induces hypervascularization permeability without alterations of Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases. [2]
                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AB011078; BAA24925.1; -. EMBL; S79680; AAB35371.1; -. HSSP; P15692; ZVGH.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE;
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SPECIES=C.C.JI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO; IPR000072;
PFAM; PF00341; PDGF;
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ALTERNATIVE PRODUCTS: THREE ISOFORMS (VEGF-190, VEGF-146 AND VEGF
166) ARE PRODUCED AS A RESULT OF ALTERNATIVE SPLICING OF THE SAME
GENE. THE LONGER FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CEI
RETENTION SIGNAL.

TISSUE SPECIFICITY: ABUNDANTLY AND EQUALLY EXPRESSED IN HEART ANT
TISSUE SPECIFICITY: ABUNDANT THAN THE VEGF-166 FORM IS
5- TO 10- TIMES MORE ABUNDANT THAN THE VEGF-190 FORM.

DEVELOPMENTAL STAGE: THE VEGF-166 FORM IS EXPRESSED EARLY AT DAY
AND IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190
FORM IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190
FORM IS UPGRADED DURING GASTRULATION. EXPRESSION OF THE VEGF-190
FORM IS UPGRADED DURING GASTRULATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ferentiation in the quail embryo.";
Biol. 169:699-712(1995).
FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FORM IS DETECTABLE ONLY FROM DAY 2. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                   Similarity
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95301109.
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PS50278; PDGF_2; 1.
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BY SIMILARITY.
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BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. ...). (POTENTIAL).
K -> N (IN ISCORM VEGF-166).
MISSING (IN ISCORM VEGF-166).
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MISSING (IN ISOFORM VEGF-146).
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                                                                                                                  Length 216;
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AS A CELL
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EMBL; X96793; CAA65587.1; -
HSSP; P15692; IVPF.
MGD; MGI:105095; PGF.
INTERPRC; IPR000072; -
PFAM; PF00341; PDGF; 1.
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PLGF_MOUSE
P49764;
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SEQUENCE
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Mus musculus (Mouse).
Mus musculus (Mouse).
Arrota; Metazoa; Chordata;
Arrota; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dipalma T., Tucci M., Russo G., Maglione D., Lago Saccone S., della Valle G., de Gregorio L., Drago Viglietto G., Persico M.G.;
"The placenta growth factor gene of the mouse.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996 (Rel. 34, C
01-OCT-1996 (Rel. 34, L
30-MAY-2000 (Rel. 39, L
PLACENTA GROWTH:FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Placenta growth factor and vascular endothelial groco-expressed during early embryonic development.";
Growth Factors 15:69-80(1997).
-i- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-NIH SWISS;
MEDLINE; 98065381.
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01-OCT-1996
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96
                                         4 SNITMQIMRIKPH
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SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
SIMILARITY: BELONGS TO THE PDGE/VEGF FAMILY OF GROWTH FACTORS.
ANITMQILKIFPN
                                                                                   Similarity
8; Conser
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PS50278; PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                                                            Growth
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                                                                                   Conservative
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83
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34, Last sequence 39, Last annotations
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DR PRECURSOR
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                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein;
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BY SIMILARITY.
                                                                                   Score 45; DB 1;
Pred. No. 0.23;
4; Mismatches
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N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL);
F16128BEA0790438 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                pprotein; Signal.
BY SIMILARITY.
PLACENTA GROWTH FACTOR
                                                                                                                                                                                                                                                                           INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
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L., Dragani
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01-NOV-1995 (Rel. 32, L
01-NOV-1995 (Rel. 32, L
HYPOTHETICAL 200.6 KDA
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Q09221;
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30-MAY-2000
30-MAY-2000
                                                                                   This SWI
                                                                                                                                                                                                                            Ogihara T., Isobe T., Ichimura T., Taoka M., Funaki M., Sonishi Y., Inukai K., Anai M., Fukushima Y., Kikuchi M., Oha Y., Asano T.;
"14-3-3 protein binds to insulin receptor substrate-1, or binding sites of which is in the phosphotyrosine binding J. Biol. Chem. 272:25267-25274(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1067
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Caenorhabditis elegans.
Caenorhabditida; Rhabditoidea;
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Phahditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein. SEQUENCE 1788 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; U23168; AAC38806.1; -. WORMPEP; B0228.2; CE01743.
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Leimbach D., Wa
                                                      the
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Q9Y4H2;
                                                                                                                                                         -!- SIMILARITY: CONTAINS
-!- SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (MAR-1995) to the EMBL/GenBank/DDBJ databases
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with the Swiss Institute of Bioinformatics and the EMBL outstation. European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ified and this statement is not removed. Usago he and for its by mon-profit institutions as long as its content is in no way ified and this statement is not removed. Usago he and for its not removed.
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32, Last sequence update)
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KDA PROTEIN B0228.2 IN CHROMOSOME II.
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Primates;
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1 PTB DOMAIN.
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Pred. No. 3.2;
3; Mismatches
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3.2;
                                                                                                                                                                                                                                 VARIOUS CELLULAR PROCESSES
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                                                                                                                                                                                                                                                                                                                                                         Sakoda H.,
, Yazaki Y.,
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Harris D., McDohald S., Barrell B.G., Rajandream M.A., Walsh S.V., Submitted (FEB-1996) to the EMBL/GenBank/DDBJ databases.

-i FUNCTION: ESSENTIAL SUBUNIT OF N-OLIGOSACCHARYL TRANSFERASE.

-i PUNCTION: ESSENTIAL SUBUNIT OF N-OLIGOSACCHARYL TRANSFERASE CATALYSES THE TRANSFER OF A HIGH MANNOSE OLIGOSACCHARIDE FROM A LIPID-LINKED OLIGOSACCHARIDE DONO ASPARAGINE ACCEPTOR SITES WITHIN AN ASN-X-SER/THR CONSENS MOTIF IN NEWLY SYNTHESIZED PROTEINS.

-i- CATALYTIC ACTIVITY: DOLICHYL DIPHOSPHOLIGOSACCHARIDE + PROTEI L-ASPARAGINE - DOLICHYL DIPHOSPHATE + A GLYCOPROTEIN WITH THE
                                                                                                                                                                                                                                                                                                                                                                                                                               OSTA_SCHPO STANDARD; PRT; 450 AA. Q10176; Q10176; Q10176; Q101705;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                               Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetales;
Schizosaccharomycetaceae; Schizosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
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                                                                                                                                                                                                                                                                            SEQUENCE FROM N,A.
                                                                                                                                                                                                                                                                                                                                                                                                                      SPAC27F1.07.
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Pred. No. 3
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red. No. 3.6;
Mismatches
                                    DIPHOSPHOOLIGOSACCHARIDE + PROTEIN
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RESULT 13
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Best Local S
Matches
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01-OCT-1996 (Rel. 34, LE
01-OCT-2000 (Rel. 40, LE
PLACENTA GROWTH FACTOR PGF OR PLGF.
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TRANSMEM
DOMAIN
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HUMAN
                                                                        expressed placenta."
                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
SEQUENCE FROM N.A. MEDLINE; 93205407.
                                                           Growth
                                                                                      Hauser S., Weich H.A.;
"A heparin-binding for
expressed in human umb
                                                                                                                                          MEDLINE;
                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE-PLACENTA;
                                                                                                                                                                                          "Isolation of a human placenta cDNA coding the vascular permeability factor."; Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(2)
                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
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PATHWAY: GLYCOSYLATION.
SUBCELLULAR LOCATION: TYPE I MEMBRANE
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                                                         Factors 9:259-268(1993)
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8; Conser
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34, Last sequence update)
40, Last annotation update)
ACTOR PRECURSOR (PLGF-1/PLGF-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             450
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N-LINKED (GLCNAC. . .) (PO)
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Pred. No. 1.7;
2; Mismatches
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DIPHOSPHOOLIGOSACCHARIDE--PROTEIN
DIPHOSPHOOLIGOSACCHARIDE--PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CYTOPLASMIC (POTENTIAL)
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                                                                                                                                                                                                     88:9267-9271(1991).
                                                                                       a growth factor (PIGF-2) endothelial cells and in
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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F00341; PDGF; 1.
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J. Mol. Biol. 217:603-610(1991).
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MEDLINE; 91116305.
Agranovsky A.A., Boyko V.P.,
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EMBL; X73476; CAA51865.1;
PIR; S28712; S28712.
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Bacteria; Firmicutes;
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"Bacillus subtilis spoilie protein required for DNA segregation during asymmetric cell division.";

Science 264:572-575(1994).

-i- FUNCTION: REQUIRED FOR SPORULATION. IT IS REQUIRED FOR CHROMOSOME SEGREGATION INTO THE PRESPORE COMPARTMENT. MAY ALSO BE REQUIRED TO PREVENT SIGMA F FROM BECOMING ACTIVE IN THE MOTHER CELL. MAY BIND
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"The role of the sporulation gene spoiliE in the regulation prespore-specific gene expression in Bacillus subtilis.";

Mol. Microbiol. 3:1247-1255(1989).
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Q9UL23 PREXIMINARY; PRT; 174 AA.
Q9UL23;
Q1-MAY-2000 (TrimbLrel. 13, Created)
Q1-MAY-2000 (TrimbLrel. 13, Last sequence update)
Q1-JUN-2000 (TrimbLrel. 14, Last annotation update)
VASCULAR PERMEABILITY FACTOR 148.
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Q9UH58;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR ISOFORM 121 PRECURSOR.
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Sato J.D., Whitney R.G.;
"Human CDNA for vascular endothelial growth factor isoform VEGF121.";
submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF214570; AAF19659.1; -.
INTERPRO, IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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"Identification of a human VPF/VEGF 3'
hypoxia-induced mRNA stability.";
MO1. Biol. Cell 9:469-481(1998).
EMBL; AF022375; AAC63143.1; -.
HSSP; P15692; IVPP.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE 191 AA; 22320 MW; B5E4358
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01-AUG-1998
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01-JUN-2000 VEGF183 PROTI
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EMBL; AF091352; AAD55345.1; -
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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Eukaryota;
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                                                                                          EMBL; S85192; AAC63102.1; EMBL; S85224; AAC63101.1; EMBL; S85294; AAC63101.1; J EMBL; S85201; AAC63101.1; J EMBL; S85219; AAC63101.1; J EMBL; S85222; AAC63101.1; J HSSP; P15692; ZVPF
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Q16889;
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 PROSITE;
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SEQUENCE
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Homo sapiens (Human).
Homo sapiens (Human).
Pervota; Metazoa; Chordata;
Primates;
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PRODOM; F
                                                                              INTERPRO;
                                                                                                                                                                                                                              Mol. Endocrinol. 5:1806-1814(1991).
                                                                                                                                                                                                                                                                 fourth molecular species
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                                                                                                                                                                                                                                                                                                                      MEDLINE;
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Lei J., Jiang A., Pei D.;
"Identification and characterization of a new splicing variant
vascular endothelial growth factor: VEGF183.";
vascular endothelial growth factor: Expr. 1443:400-406(1998).
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Homo sapiens (Húman).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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The vascular endothelial growth factor family:
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Pred. No.
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VEGF183 PROTEIN.
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SEQUENCE FROM N.A.

XX MEDITINE; 99313148.

AVIVÍ A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RA AVIVÍ A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
RT ehrenbergi: the role of vascular endothelial growth factor.";
RL FEBS Lett. 452:133-140(1999).
DR EMBL; AF186236; AAD56245.1; -
DR INTERPRO; IPR000072; -
DR FFAM; PF00341; PDGF; 1.
DR PROSITE; PS00249; PDGF; 1.
DR PROSITE; PS00249; PDGF; 1.

PROSITE; PS00249; PDGF; 1.
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Best Loc
Matches
           "Ovine vascular endothelial growth fa
expression in fetal tissues.";
Growth Factors 0:0-0(1998).
EMBL; AF071015; AAC23608.1; -.
HSSP: P15692; 2VGH.
INTERPRO; IPRO00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
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01-NOV-1998
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01-MAY-2000
01-JUN-2000
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
Spalax.
                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).
Eukaryota; Metazem; Chordata; Crania;
Mammalia; Eutheria; Cetartiodactyla;
Bovidae; Caprinae; Ovis.
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Cheung C.Y., Brace R.A.;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                    Bovoidea;
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                                                                                      Query Match
Best Local S
Matches 14
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Best Local S
Matches 14
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Best Local
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Submitted (MAR-1999) to the EMB:

EMBL; AF133248; AAD29682.1; -

INTERPRO: IPRO00072; -

IPRAM; PF00341; PDGF; 1.

PROSITE; PS00249; PDGF; 1.

SEQUENCE 190 AA; 22292 MW;
                                                                                                                                                                                                                                                    Jingjing L., Roque R.S.;
submitted (MAR-1999) to the EMB
EMBL; AF133249; AAD29683.1; -
INTERPRO; IPRO00072; -
IPROSITE; PS00049; PDGE; 1.
PROSITE; PS00049; PDGE; 1.
SEQUENCE 208 AA; 24400 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9XSF4 PRELIMINARY;
Q9XSF4;
Q1-NOV-1999 (TrEMBLTel. 12, C
Q1-NOV-1999 (TrEMBLTel. 12, L
Q1-JUN-2000 (TrEMBLTel. 14, L
VASCULAR ENDOTHELIAL GROWTH F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VBOR.
Canis familiaris (Dog).
Cukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia: Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1999 (TremBLrel. 12, 01-NOV-1999 (TremBLrel. 12, 01-JUN-2000 (TremBLrel. 14, VASCULAR ENDOTHELIAL GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
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01-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Canis familiaris (Dog).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97
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EESNITMQIMRIKPH
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14; Conservative
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                                                                                                                        82.6%;
93.3%;
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93.3%;
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, Last annotation
H FACTOR 164.
                                                                                             Score 71; DB Pred. No. 1.6e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
FACTOR 182.
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ
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Pred. No.
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Pred. No. 1.5e-05;
0; Mismatches 1
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                                                                                                                                                                                                                                                          CF77AC591F5C2BBE CRC64;
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1.5e-05;
1;
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                                                                                                                        DB 6;
1.6e-05;
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EEFNITMQIMRIKPH

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Q9XSF5
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O9OXG7;
O9OXG7;
O1-MAY-2000 (TrEMBLrel. 13, Last
O1-MAY-2000 (TrEMBLrel. 14, Last
O1-JUN-2000 (TrEMBLrel. 14, Last
E VASCULAR ENDOTHELIAL GROWTH FACT
Natus norvegicus (Rat).
S Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 14
                                                                                                       Query Match
Best Local Similarity 92.9
Matches 13; Conservative
                                                                                                                                                           "Developmental expression of var
(VEGF-A) splicing variants, VEGI
masseter muscle.";
submitted (DEC-1999) to the EMBI
EMBL; AF215725; AAF19211.1; -.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 214 AA; 25239 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the E
EMEL; AF133250; AAD29684.1; -
INTERPRO; IPR00072; -
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
097500
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Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Cranidae;
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01-NOV-1999 (TrembLrel. 12,
01-NOV-1999 (TrembLrel. 12,
01-JUN-2000 (TrembLrel. 14,
VASCULAR ENDOTHELIAL GROWTH
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                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                               Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                              [Shii H., Arakawa T., Okayama M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                              98
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                                                                           ESNITMQIMRIKPH
                                                              ESNVTMQIMRIKPH 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25151 MW;
                                                                                    16
                                                                                                                                                                                                                                                                                                                                                                                                                                           111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              82.6%;
93.3%;
                                                                                                                   82.6%;
92.9%;
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                                                                                                                                                                                                                                       ama M., Oota I.,
of vascular endot
, VEGF-A188, VEGF
                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation updat
FACTOR-A188.
                                                                                                                                                                                                                   EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 71; DB Pred. No. 1.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                         Score 71; DB
Pred. No. 1.7e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2269981AFBC60058 CRC64;
                                                                                                                                                               60FBB876F5304946 CRC64;
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1;
                                                                                                                                                                                                                                         endothelial, VEGF-A164,
          68
                                                                                                      ов т.
1.7e-05;
0;
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          A
                                                                                                                                                                                                                                                              Takuma T.,
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                                                                                                                             Length 214;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
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                                                                                                          0;
                                                                                                                                                                                                                                                                                              Rattus
                                                                                                         Gaps
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018843
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                                                                                             Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                      LOW-frequency-stimulated rabbit muscle.";

Am. J. Physiol. 274:0-0(1998).

EMBL; AF022179; AAC15469.1; -.

HSSP; P15692; IVPP.

INTERPRO; IPROCOCCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        097500;
01-MAY-1999 (TIEMBLE)
01-MAY-1999 (TIEMBLE)
101-JUN-2000 (TIEMBLE)
... CULAR ENDOTHELIAL G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 13; Conserv
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018843;
01-JAN-1998
01-JAN-1998
01-JUN-2000
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NON_TER
SEQUENCE
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NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGF.
Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWIH FACTOR (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN-WHITE NEW ZEALAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

Inoue K., Kawabe Y., Kodama T.;

"Rabbit VegF cDNA, partial.";

Submitted (NOY-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Cr
Mammalia; Eutheria; Lagomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                              PFAM; PF00341; PDGF; PROSITE; PS00249; PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE;
40 EEFNVTMQIMKIKPH
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                                     2 EESNITMQIMRIKPH 16
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P15692; 1VPP.
                                                                                             Similarity
13; Conserv
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PS00249; PDGF;
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(TrimbLrel. 10, Last sequence update)
(TrimbLrel. 14, Last annotation update)
DOTHELIAL GROWTH FACTOR (FRAGMENT).
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                                                                                               Conservative
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PDGF;
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7819
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8720
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86.7%;
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86
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                                                                                                                                                                                                      ΜW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=SKELETAL MUSCLE;
                                                                                           Score 70; DB 6;
Pred. No. 9e-06;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 70;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              687638661E98DEE0 CRC64;
                                                                                                                                                                                                      DDCE2C5B29E69359
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8.2e-06;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    ٥.;
                                                                                                                                                                                                                                                                                                                                                                                                                  mitochondrial enzymes
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                                                                                                                                                                                                      CRC64;
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Best Local Similarity
Matches 11; Conserv
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Best Local Similarity 92.9
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                        042571
042571;
01-JAN-1998
                                                                                                                                                                                            SEQUENCE FROM N.A.
Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; AF008593; AAB63679.1;
HSSP; P15692; 1VPP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF215726; AAF19212.1; -.
INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSITE; PS00249; PDGF; 1.
SEQUENCE 146 AA; 17161 MW; AF92979C38EF532A CRC64;
                                                                                                                        INTERPRO; IPRO00072; -.
PFAM; PF00341; PDGF; 1.
PROSTTE; PS00249; PDGF; 1.
PRODOM; PD001629; -; 1.
SEQUENCE. 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

IShii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;

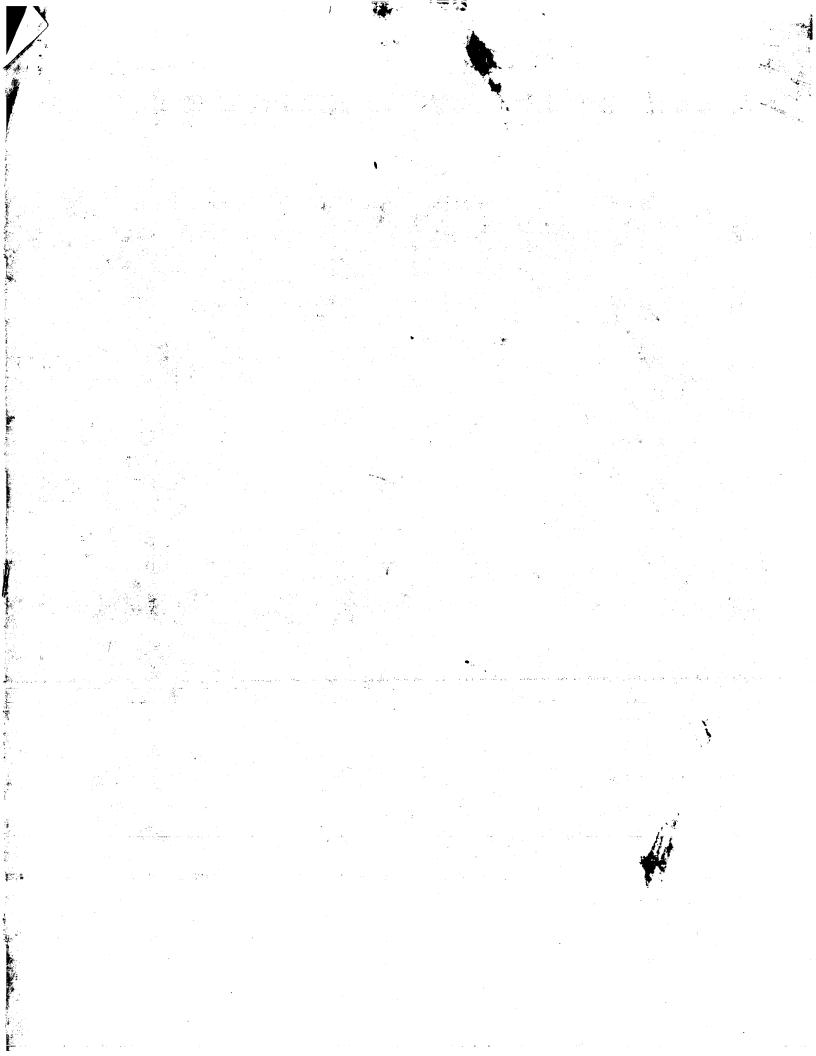
"Developmental expression of vascular endothelial growth factor-A

(VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
masseter muscle."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR-A120.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                            01-JAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
VASCULAR ENDOTHELIAL GROWTH FACTOR 122.
                                                                                                                                                                                                                                                                                                   Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9QXG6
                                                                                                                                                                                                                                                                                        Kenopodinae; Kenopus
101 NITMQIMKIKPH 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                5 NITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 ESNITMQIMRIKPH 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESNATMQIMRIKPH 111
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77.98;
92.98;
                                                                      69.8%;
91.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                   Score 60; DB 13; Length 148; Pred. No. 0.0013;
                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                        148
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6.3e-05;
hes 1;
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Search completed: November Job time: 617 sec

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Best Local S
Matches 45
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                                                                                                                                                                               22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                           Key
Modified-site
                                                                                                                                                                                                                                                                                                                                            Bovine; basic fibroblast growth factor; antagonist; mitogen; melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
               The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
                                                                                                                                                                                                                                                             US5252718-A
                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                          FGF antagonist
                                                                                                                                                                                                                                                                                                                                                                                              05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                   R43278
                                                                                                                                                                                                                                                                                                                                                                                                                                     R43278 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See also P71542, P71557,
                                                                                                                                                           (SALK ) SALK INST BIOLOGICAL
                                                                                                                                                                                                                       22-APR-1986;
                                                                                                                                                                                                                                          12-OCT-1993.
Sequence
                                                          Example 1; Column 10; 12pp;
                                                                           retinopathy, glomerulonephritis,
                                                                                      New fibroblast growth factor peptide(s) used to inhibit cell growth in culture or
                                                                                                                     WPI; 1993-336156/42.
                                                                                                                                        Baird JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
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                                                                                                                                        Ling NC;
 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; ilarity 100.0%; Conservative
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88US-0270225.
92US-0873773.
                                                                                                                                                                                                                                                                                                                                                                           bFGF(24-68)-NH2
                                                                                                                                                                                                                        86US-0854843
                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                    /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide;
                                                                                                                                                                                                                                                                                                                                                                                                entry)
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                                                           English.
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                                                                                                                                                              STUDIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 239; DB 8;
Pred. No. 4.2e-26;
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                                                                              melanoma
                            reduces the by 54% and s
                                                                                       are FGF antagonists in disease e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                               shows
                                         amount of
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                              strong
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Query Match 100.0%; Best Local Similarity 100.0%; Matches 45; Conservative

0

Score 239; DB 14; Pred. No. 4.2e-26; Mismatches 0;

Length Indels

45;

Š 밁

25

69

Matches Query Match Best Local (

oh 100.0%; Similarity 100.0%; 45; Conservative 0

0

Score 239; DB 9; pred. No. 9.1e-26; Mismatches 0;

Length 86;

Indels

0

Gaps

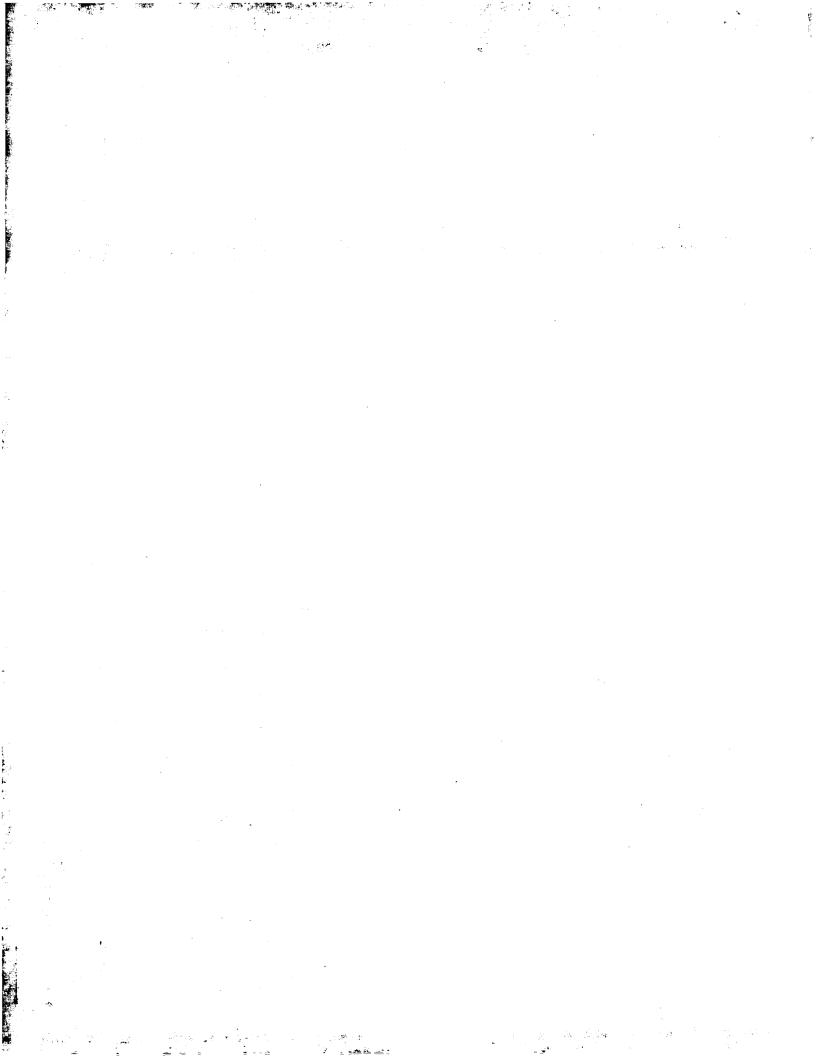
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Gaps

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RESULT
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                                 Using plasmid p7B796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB796 was obtained, which (IFO 14701, FERM BP-1661) harbors the plasmid pTB796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its anglogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
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                                                                                                                                                                                                                        Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, activity of capillary endotherial cells and
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                                                                                                                                                                                                                                                                                                                  Senoo
                                                                                                                                                                                                                                                                                                                                         (TAKE ) TAKEDA CHEMICAL IND KK
                                                                                                                                                                                                                                                                                                                                                                   24-FEB-1987;
                                                                                                                                                                                                                                                                                                                                                                                           20-FEB-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                           EP281822-A.
 Sequence
                                                                                                                                                                                                  Disclosure; ; lpp; English
                                                                                                                                                                                                                                                                                                                                                                                                                   14-SEP-1988.
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also N81971-97
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                                                                                                                                                                                                                                                                             N81990
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  86
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87..87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label=mutation_Lys_to_stopcodon
/note="creates AF1 II recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein;
                                                                                                                                                                                                                                                                                                                   Igarashi
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RESULT
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-39 c basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be used diagnostically or therapeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF vascularisation.
                                                                                                                                                                                 22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                FGF antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             receptor.
See also P71542, P71557, P71558 and P71561.
                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                   melanoma;
                                                                                                                                                                                                                                                                                                                                                              Bovine;
                                                                                                                                                                                                                                                                                                                                                                                                     05-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                         R43278;
                                                                                                                                                                                                                                                                                                                                                                                                                                           R43278 standard;
                 The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHX cells affinity to bind heparin.
                                                                                       used
                                                                                                                       WPI;
                                                                                                                                          Baird
                                                                                                                                                                                                                                               12-OCT-1993
                                                                                                                                                                                                                                                                    US5252718-A
                                                                                                                                                                                                                                                                                                Key
Modified-site
 Sequence
                                                          Example 1; Column
                                                                               retinopathy,
                                                                                                     New
                                                                                                                                                            (SALK ) SALK
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                                                                             fibroblast growth factor peptide(s) - d to inhibit cell growth in culture or inopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ycknggfflrihpdgrvdgvreksdphiklqlqaeergvvsikgv
                                                                                                                        1993-336156/42.
                                                                                                                                            JA,
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                                                                                                                                                                                                                                                                                                                                                  basic fibroblast growth factor; antagonist; mitogen;
a; glomerulonephritis; retinopathy.
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                                                                                                                                                                                   860S-0854843.
880S-0270225.
920S-0873773.
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                               reduces the amount of by 54% and shows strong
                                                                                            are FGF antagonists
in disease e.g.
                                                                                  etc.
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100.0%; ilarity 100.0%; Conservative

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ch 100.0%; | Similarity 100.0%; | 45; Conservatave (

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                                                     Using plasmid pyB796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pyB796 was obtained, which (IFO 14701, FBRM BP-1661) harbors the plasmid pyB796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its or postoperative tissues or as a therapeutic drug based on its anglogenic action for e.g. thrombosis or arteriosolerosis. It can also be used as a resgent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human basic fibroblast growth factor; human bFGF mutein C86; growth promoting activity; growth stimulating activity; phage M13-PC86; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human basic
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having fibroblast growth promoting activity,
activity of capillary endothelial cells and
                                                                                                                                                                                                                                                                                                                                                  Senoo M,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-SEP-1988
                                                                                                                                                                                                                          Disclosure; ;
 Sequence
                                           preferred because the mutein is highly and linkages are reduced or eliminated.
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                              linkages are reduced also N81971-97.
                                                                                                                                                                                                                                                                                                                      1988-258580/37.
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    86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="creates
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/note="creates AF1 II recognition
                                                                                                                                                                                                                           English.
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RESULT
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         26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 may be replaced by Ser, ans Ile 138 is replaced by Ser.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rhbrGF mutein C137 (encoded by N90407) lacks 9 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                               09-AUG-1989
                                                                                                                                                                                                                rhbFGF mutein
                                                                                                                                                                                                                                                                P90565
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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19-AUG-1988;
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                                                         24-JAN-1989;
                                                                                                       EP326907-A.
                                                                                                                                                                                          Basic
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                                                                                                                                                                                                                                                                                       P90565 standard;
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                                                                                                                                                                                                                                                                                                                                               fibroblast growth factor; mutein CS23C137
                                                                                                                                                                                                                                                                                                                                                                                               . Similarity
45; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sasada R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        138 AA;
                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 239; DB 10; llarity 100.0%; Pred. No. 1.6e-25; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           claim 9, page 22; Fig. 3; 41pp; english.
                                                                                                                                                                                                                CS23C137
        88JP-0016260.
88JP-0206968.
88JP-0235842.
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88JP-0206968.
88JP-0235842.
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70
88
138
                                                       89EP-0101162.
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                                                                                                                                                                                                                                                                                      protein; 138
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor; mutein C137
                                                                                                                                                                                                                                                                                       A
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                                                                                                                                                                                                                                                                                                                                                                                                                     Length 138;
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Matches 45
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                                                                                                                                                                                                                                                                                                                                           Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                Disclosure; Fig. 14; 41pp; english.
                                                                                                                                                                          cell cultivation. (see P90563).
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                                1 YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
Similarity
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                                                                             Score 239; DB 10;
Pred. No. 1.6e-25;
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RESULT
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Y17995
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                                                                                                                                                                                                       CC fusion partners that lack leader sequences. The nucleic acids, vectors, cc host cells and methods disclosed may be used to recombinantly produce CC large quantities of fusion proteins, in which the fusion partner lacks a cleader sequence, via fermentation culture according to standard CC recombinant DNA methodologies. The polypeptide of interest is cleaved CC away from the rest of the fusion protein by proteolytic digestion. A CC variety of polypeptides may be produced in this manner including enzymes, CC membrane receptors, mutant IGFBP-3s and fragments of them. Additionally, CC in the invention may be used in the screening of libraries of random CC interleukin-1-like (IL-1-like) polypeptide, the random peptides by assays for their biological function. When fused to an CC interleukin-1-like (IL-1-like) polypeptide, the random peptides accumulate in a protected cellular compartment in a soluble active form. CC cells (e.g. Escherichia coil), in a soluble, active and easily CC recoverable form at temperature at or close to the physiological optima CC that are otherwise unstable or insoluble may be expressed as fusions with the IL-1-like polypeptides or other leader deleted translocating CC peptides. Sequences y17992-996 represent five members of the II-1-like polypeptides or other leader deleted translocating CC peptides.
                                                                                                             Query Match
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Matches 45
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02-AUG-1993;
02-AUG-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Recombinant production
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human basic fibroblast growth factor (FGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-AUG-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y17995 standard;
                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zhang
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                                                                                                           ch 100.0%; l Similarity 100.0%; 45; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CELTRIX PHARM INC.
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                                                                                                                                                                                  132 AA;
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93US-0100744.
94US-0284784.
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on protein; fibroblast growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nguyen
                                                                                                             0;
                                                                                                           Score 239; DB 20;
Pred. No. 1.5e-25;
); Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; interleukin-1; IL-1;
factor; FGF.
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                                                                                                             Indels
                                                                                                                                     Length 132;
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                                                                                                                                                                                                                                                                                                                                                         Query Match 100
Best Local Similarity 100
Matches 45; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Using plasmid pTB795, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB795 was obtained, which (IFO 14700, FERM BP-1660) harbors the plasmid pTB795 expressing the mutein represented here. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mutein of basic fibroblast growth factor -
having fibroblast growth promoting activity,
activity of capillary endothelial cells and a
                                                    P90563;
                                                                                                   P90563 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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SB; N81989.
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                                                                                                      protein; 138
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                                                                                                                                                                                                                                                                                                                                                         Score 239; DB 9; Pred. No. 1.6e-25; Mismatches 0;
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angiogenic activity
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26-0CT-1989

(first entry)

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Best Local
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It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated.
rhbFGF mutein C129 (encoded by N90406) lacks 18 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing cf, eg burns, wounds and postoperative tissues, as a drug for thrombosis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Using plasmid pTB856, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTB856 was obtained, which harbors the plasmid pTB856 expressing the mutein represented here. The amino acid sequence from Lys130 to Ser147 has been deleted.

The mutein has high stability and is low in toxicity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mutein of basic fibroblast growth factor - having fibroblast growth promoting activity, growth stimulating activity of capillary endothelial cells and angiogenic activity
                                                                                      Disclosure;
                                                                                                                                                          WPI; 1989-228965/32.
                                                                                                                                                                                                                                                      26-JAN-1988;
19-AUG-1988;
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N-PSDB; N81997.
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45; Conserv
                                                                                                             of basic fibroblast growth factor - lacking cids, having growth promoting and angiogenic
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88JP-0206968.
88JP-0235842.
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                                                                                   22; Fig. 8; 41pp; english
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Pred. No. 1.5e-25;
Mismatches 0;
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19-AUG-1988;
20-SEP-1988;
                           of basic fibroblast growth factor. It has high fibroblast growth factor. It has high fibroblast growth factor. It has high fibroblast growth promoting, vascendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation. Cys 70 and Cys 88 have been replaced by Ser
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Sequence
                   (see
                                                                                                      Disclosure;
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Cys 70 and Cys 88
                                                                                                                          amino acids,
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                   cultivation. P90562).
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45; Conser
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                                                                                                      Fig.
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e replaced by
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Pred. No. 1.5e-25;
Mismatches 0;
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19-AUG-1988;
20-SEP-1988;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Fig. 6; 41pp; english.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1989-228965/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Senoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Basic fibroblast growth factor; mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rhbFGF mutein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P90560;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P90560 standard; protein; 118 AA.
Basic fibroblast growth factor; mutein
                                    rhbFGF mutein
                                                                                                    P90561;
                                                                                                                                    P90561 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TAKE ) TAKEDA CHEMICAL INDUSTRIES LTD
                                                                   26-OCT-1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            acids,
                                                                                                                                                                                                                                                                                      45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                l Similarity
45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of basic fibroblast growth factor - lacking carboxy terminal cids, having growth promoting and angiogenic activities.
                                                                                                                                                                                                                                                                                    Similarity 100
15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sasada R,
                                                                                                                                                                                                                                                                                                                                                                    118 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
llarity 100.0%;
Conservative (
                                                                  (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C118.
                                    C123
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88JP-0206968.
88JP-0235842.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89EP-0101162
                                                                                                                                    peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
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                                                                                                                                                                                                                                                                                                                                                                                                     a reagent to accelerate cell
                                                                                                                                    123
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Pred. No. 1.3e-25;
                                                                                                                                                                                                                                                                                  Score 239; DB 10;
Pred. No. 1.3e-25;
Mismatches 0;
                                                                                                                                    A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Igarashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 114;
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                                                                                                                                                                                                                                                                                                                Length 118;
                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                                                                                                                     cultivation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                    0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
P81940
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   basic fibroblast growth factor. It has high fibroblast growth promotily vascendothelial cell growth promoting, and angiogenic activities, and high stability and low toxicity. It is used to accelerate healing of, burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                                                                 24-FEB-1987;
                                                                                                                                                                                                                                                       Key
                                                                                                                                                                                                                                                                                                                capillary
                                                                                                                                                                                                                                                                                                                  Human basic fibroblast growth factor; human bFGF mutein growth promoting activity; growth stimulating activity; capillary endothelial cells; angiogenic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rhbFGF mutein Ci23 (encoded by N90405) lacks 24 C-terminal amino acids basic fibroblast growth factor. It has high fibroblast growth promotions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1989-228965/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TAKE ) TAKEDA CHEMICAL INDUSTRIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EP326907-A.
                 Senoo M,
                                                (TAKE ) TAKEDA CHEMICAL IND KK
                                                                                                                  20-FEB-1988;
                                                                                                                                                  14-SEP-1988
                                                                                                                                                                                 EP281822-A.
                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                      Human basic
                                                                                                                                                                                                                                                                                                                                                                                                                       26-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P81940 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Fig. 7; 41pp; english.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Senoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JAN-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        L Similarity
45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of basic
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                   Krokawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                    fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           having
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88JP-0206968.
88JP-0235842.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89EP-0101162
                                                                                   E7JP-0042218
                                                                                                                  88EP-0102491
                                                                                                                                                                                                                                  Location/Qualifiers 129..129
                                                                                                                                                                                                                /label=mutation_to_stopcodon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein;
                 'n
                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
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                 Igarashi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           promoting and a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 239; DB 10;
Pred. No. 1.4e-25;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                    factor
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                   Sasada
                                                                                                                                                                                                                                                                                                                                                                                      mutein C129 from
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angiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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123; 0;

Gaps

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plasmid

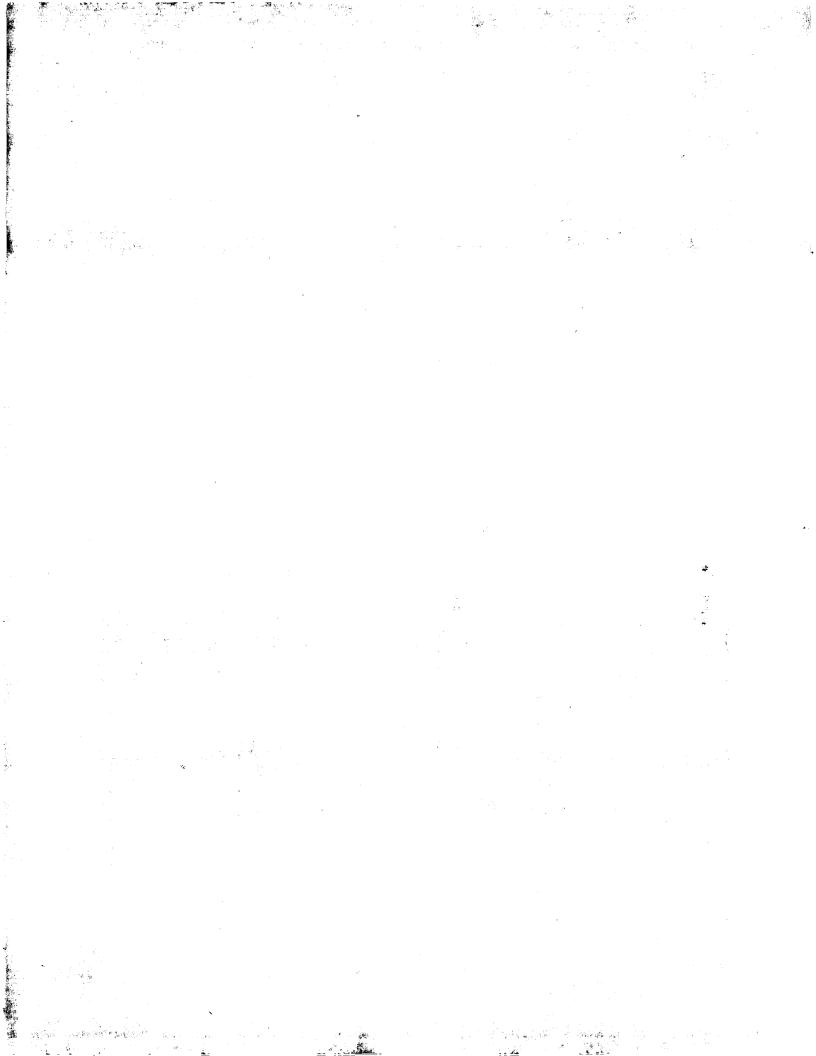
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RESULT
P90557
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P90558
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26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
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19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                             rhbFGF mutein CS102 (encoded by N90401) lacks 46 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig. 3; 41pp; english
                                                                                                                                                                                                                                                                                                                                                                                                                             Muteins of basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Senoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JAN-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rhbFGF mutein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P90557;
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                                                         09-AUG-1989
                                                                            EP326907-A
                                                                                               Basic fibroblast growth
                                                                                                                  rhbFGF mutein
                                                                                                                                                      P90558;
                                                                                                                                                                        P90558 standard; protein; 105
                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TAKE ) TAKEDA CHEMICAL INDUSTRIES
                                                                                                                                    26-OCT-1989
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                                                                                                                                                                                                                                  YCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVVSIKGV
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                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                             101 AA;
                                                                                                                                                                                                                                                             100.0%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   having
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                                                                                                                                    (first
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88JP-0206968.
88JP-0235842.
88JP-0016260.
88JP-0206968.
88JP-0235842.
                                                                                                                  CS105.
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                                      89EP-0101162
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                                                                                                                                                                                                                                                                                                                                                                                                                   growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kurokawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor; mutein CS102.
                                                                                               factor; mutein CS105.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101 AA
                                                                                                                                                                                                                                                                                                                                                                                                                    promoting
                                                                                                                                                                                                                                                              0;
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Pred. No. 1.1e-25;
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                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Igarashi
                                                                                                                                                                                                                                                                                                                                                                                                                    factor - lacking carboxy terminal
ng and angiogenic activities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ζ,
                                                                                                                                                                                                                                                              Indels
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                                                                                                                                                                                                                                                                                  101;
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RESULT
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Query Match
Best Local S
Matches 45
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                                                                                                                                                                                                                                26-JAN-1988;
19-AUG-1988;
20-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muteins of basic fibroblast growth factor - lacking carboxy terminal amino acids, having growth promoting and angiogenic activities.
                     rhbFGF mutein C114 (encoded by N90403) lacks 33 C-terminal amino acids of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
                                                                                                                                                                                                                                                                                                                                                                           rhbFGF
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                                                                                                                                                                                                                                                                                                      09-AUG-1989.
                                                                                                                                                                                                                                                                                                                                                   Basic fibroblast growth
                                                                                                                                                                                                                                                                                                                                                                                                 26-OCT-1989
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                                                                                                      Disclosure;
                                                                                                                             amino
                                                                                                                                      Muteins of
                                                                                                                                                              WPI; 1989-228965/32.
                                                                                                                                                                                    Senoo
                                                                                                                                                                                                                                                                              24-JAN-1989;
                                                                                                                                                                                                           (TAKE ) TAKEDA CHEMICAL INDUSTRIES
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nes 45; Conserv
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                                                                                                                            acids,
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                                                                                                                                                                                    Sasadı R,
                                                                                                                                        basic
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                                                                                                     Fig. 5;
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                                                                                                                            having
                                                                                                                                                                                                                                                                                                                                                                           C114
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38JP-0235842.
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                                                                                                                           fibroblast growth factor - ing growth promoting and ang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41pp;
                                                                                                      41pp; english.
                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
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                                                                                                                                                                                    Kurokawa
                                                                                                                                                                                                                                                                                                                                                     factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  english
                                                                                                                                                                                                                                                                                                                                                                                                                                               AA.
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Τ,
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                                                                                                                                                                                                                                                                                                                                                     mutein
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                                                                                                                                                                                    Igarashi
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                                                                                                                                                                                                            LTD.
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1.2e-25;
es 0;

    r - lacking carboxy terminal
angiogenic activities.

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ling of, eg
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                                                                                                                                                                               22-APR-1986;
14-NOV-1988;
27-APR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               residue sequence Pro-Asp-Gly-Arg which constitutes residues 36-39 basic FGF; it is also antagonistic to acidic FGF. The antagonist modulates growth of epithelial (and related) cells and can be used diagnostically or therapeutically, eg to treat proliferative diseases of eyes and kidneys, some types of tumours and adrenal vascularisation. It is able to bind with heparin or with the FGF
                                                                           New fibroblast growth factor peptide(s) - used to inhibit cell growth in culture or retinopathy, glomerulonephritis, melanoma
                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                         Bovine; basic fibroblast growth factor; antagonist; mitogen;
melanoma; glomerulonephritis; retinopathy.
                                                                                                                                                                                                                                                                                                                                                                       FGF antagonist bFGF(24-68)-NH2
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Sequence
                                                         Example 1; Column 10; 12pp;
                                                                                                                    WPI; 1993-336156/42.
                                                                                                                                       Baird JA,
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                                                                                                                                                                                                                                                              US5252718-A
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                 bFGF(24-68)-NH2 (100mcg/ml) bFGF bound to the BHK cells bind heparin.
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88US-0270225.
92US-0873773.
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Pred. No. 4.2e-26;
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                            reduces the amount of by 54% and shows strong
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Score 239; DB 9; Pred. No. 9.1e-26; ; Mismatches 0;

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                                   Using plasmid p7B796, E.coli MM294 was transformed, whereby the strain E.coli MM294/p7B796 was obtained, which (IFO 14701, FERM BP-1 harbors the plasmid p7B796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can all be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular briand linkages are reduced or eliminated.
                                                                                                                                                                                                                                 Mutein of basic fibroblast growth factor having fibroblast growth promoting activ activity of capillary endothelial cells:
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                                                                                                                         Sequence
                                                                                                                                                                     The peptide bFGF(24-68)-NH2 (100mcg/ml) radioactive bFGF bound to the BHK cells affinity to bind heparin.
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Query Match 100.0%; Score 239; DB 9; Best Local Similarity 100.0%; Pred. No. 9.1e-26; Matches 45; Conservative 0; Mismatches 0;
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N-PDSB; N81990.
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/note="creates AF1 II recognition site"
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14701, FERM BP-1661)
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phage Ml3-PC86;
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Result
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Maximum Match 100%
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1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp/AA1981.DAT:*

3: /SIDS1/gcgdata/genesed/geneseqp/AA1982.DAT:*
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239
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45	44	43	42	41	40	39	38	37	36	ω 5	34	ω	32	L	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239
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9	9	9	9	21	20	15	15	15	15	15	14	14	14	14	13	13	13	13	13	13	13	13	12	9	ω	13	13	11	9	10	10	9
P81920	P81919	P81918	218	Y81941	W87617	92	R65928	R65927	R65926	R65925	R42835	R39188	R39190	R34494	R27717	R27967	R27966	R27965	R27964	R25943	R25423	R25197	R11427	P82579	P71145	R25913	R24408	R03964	P81937	P90565	P90563	P81932
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ALIGNMENTS

RESULT P71559

P71559 standard; Protein; 45 AA.

P71559;

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The C-terminal group is -NH2 or -OH. The sequence includes the four
                                                                                                                                                                                                                                                New polypeptide antagonists of fibroblast growth factor - effective against basic or acidic forms, useful eg for treating proliferative diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baird AJ, Ling NCK;
                                                                                                                              Claim 7; Page 16; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1987-328974/47.
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